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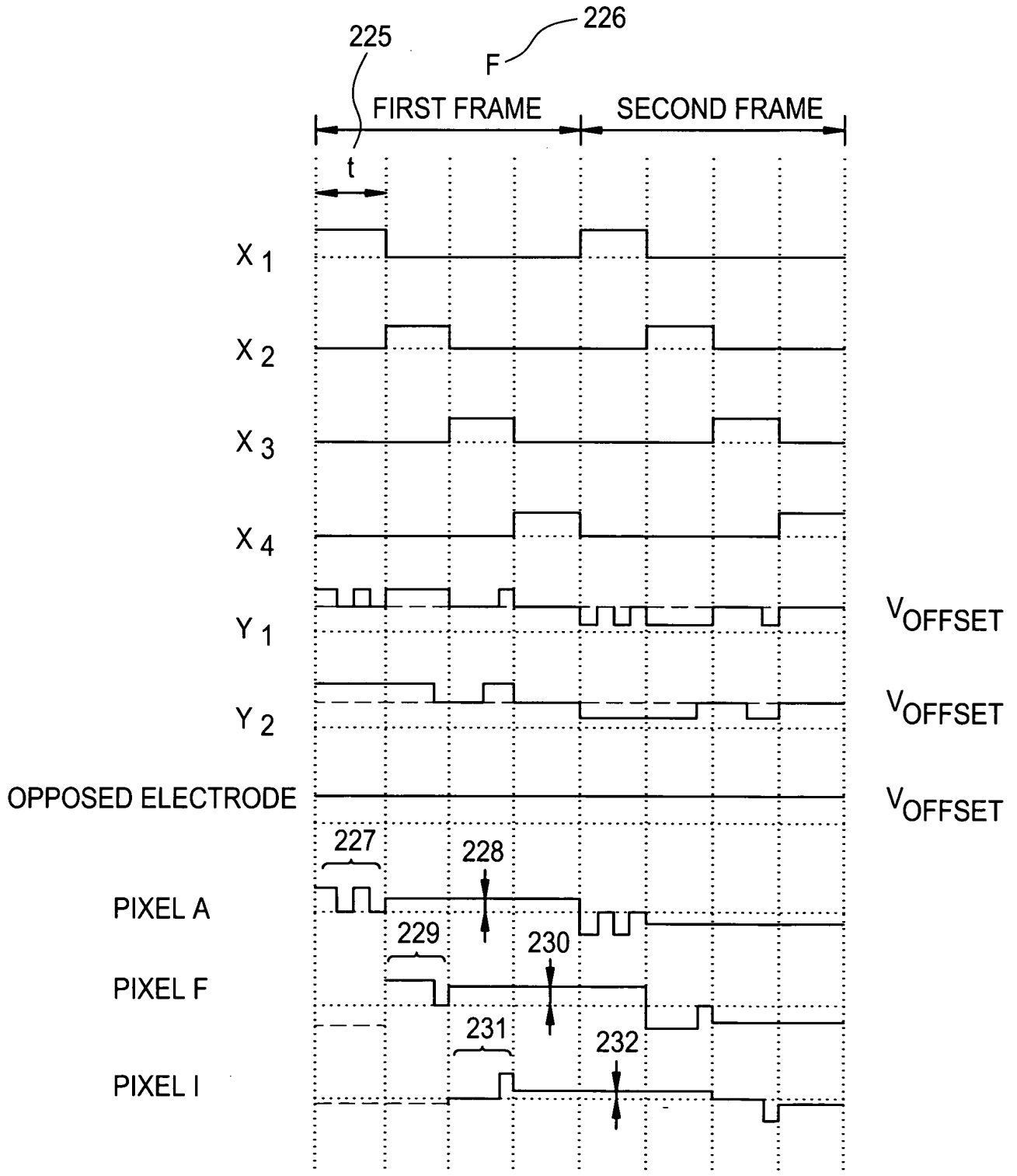
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FIG. 1





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FIG. 2

PRIOR ART

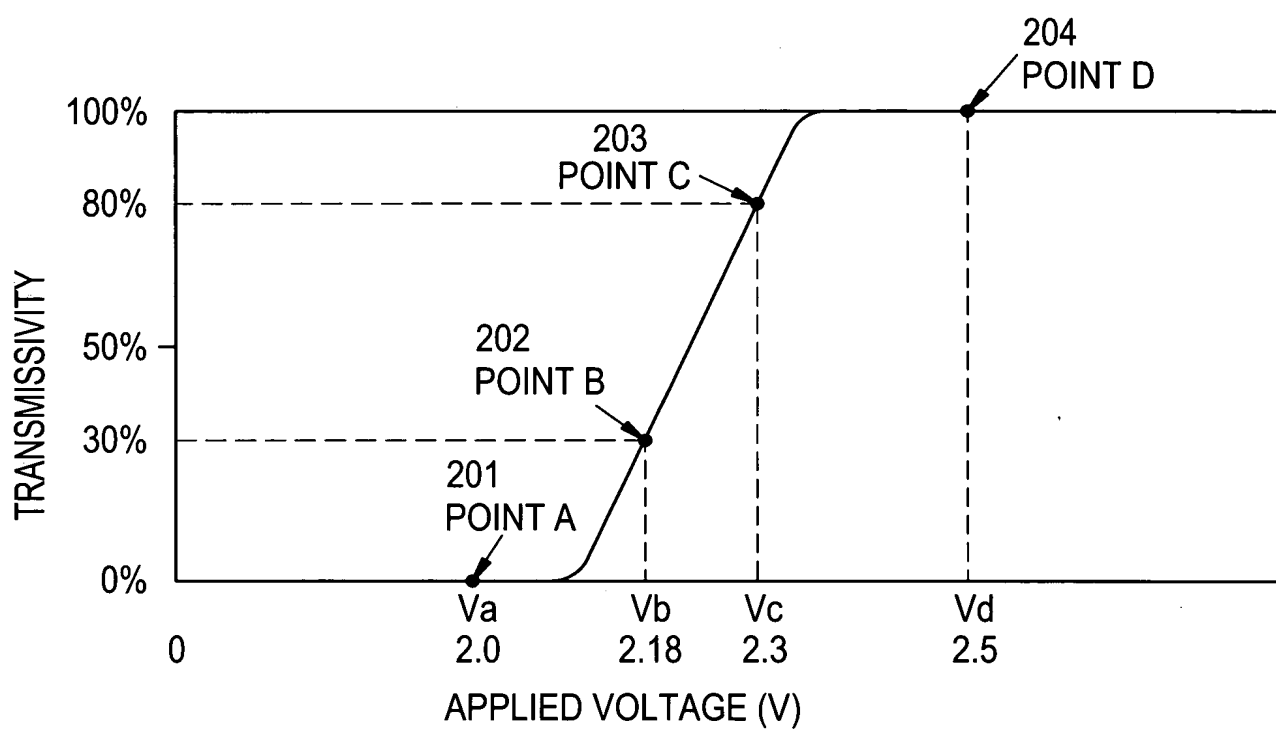
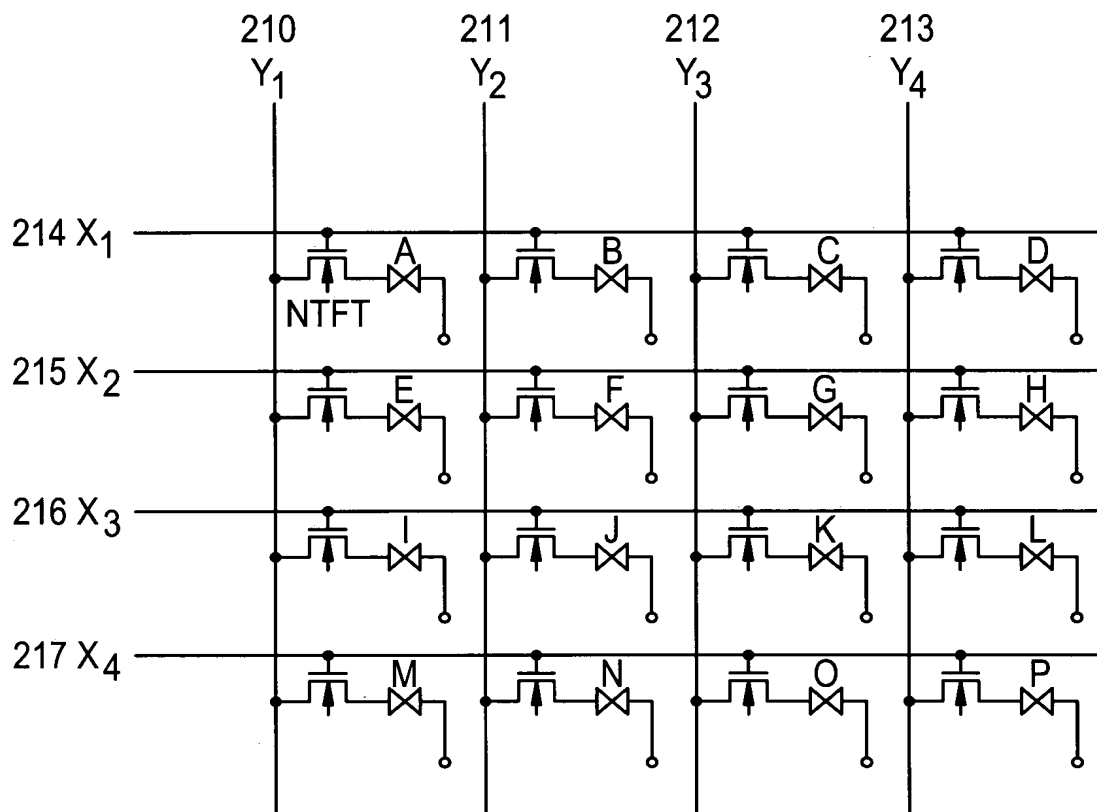


FIG. 3





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FIG. 4

F

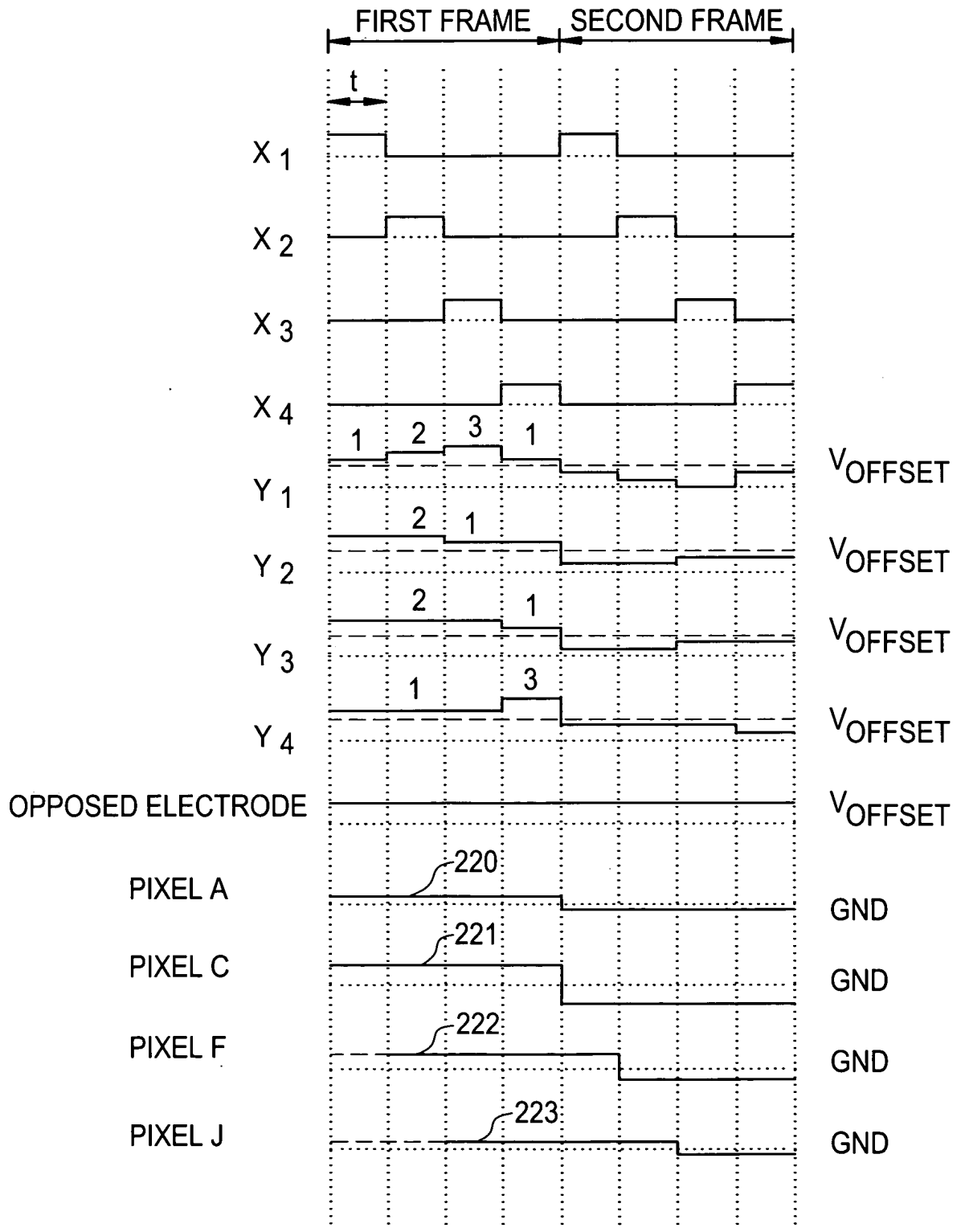




FIG. 5

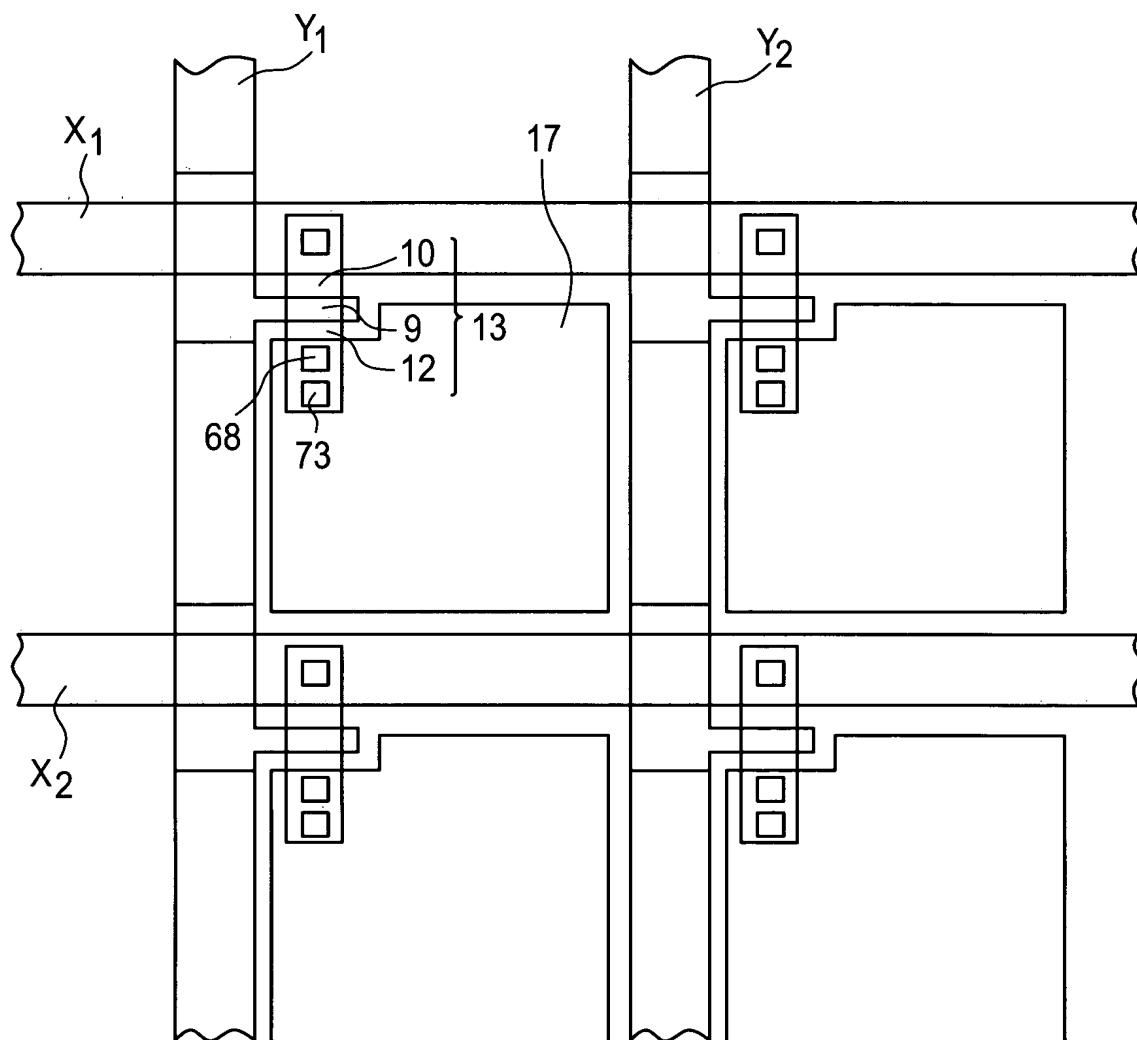




FIG. 6A

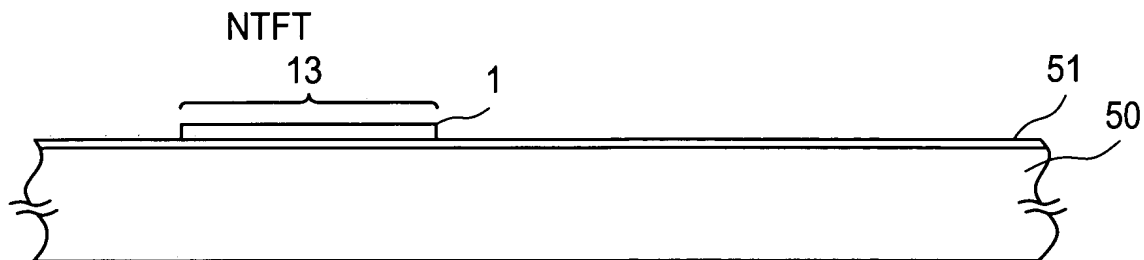


FIG. 6B

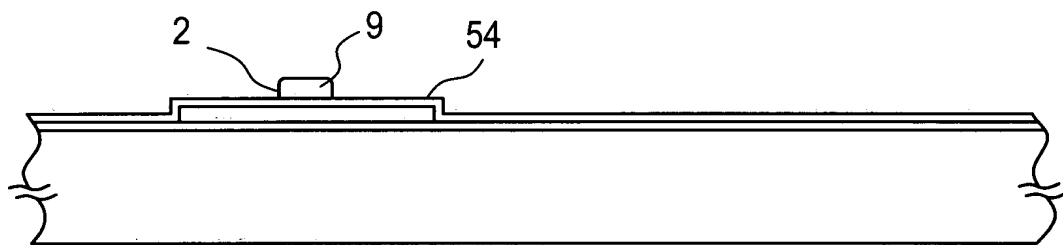


FIG. 6C

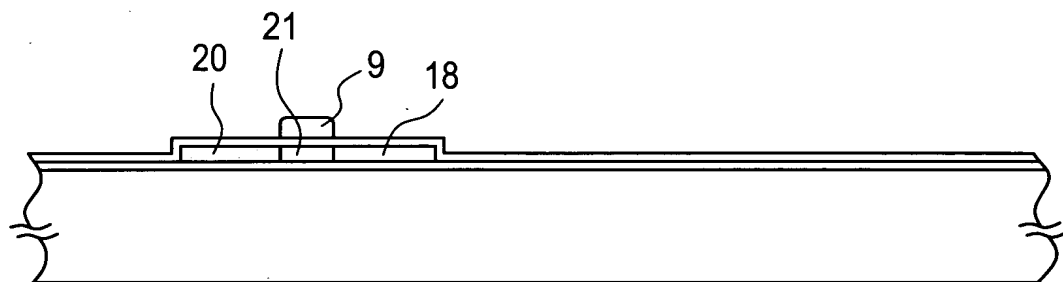


FIG. 6D

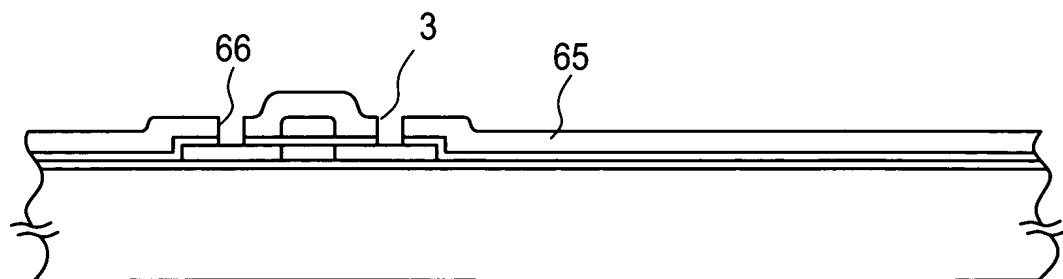


FIG. 6E

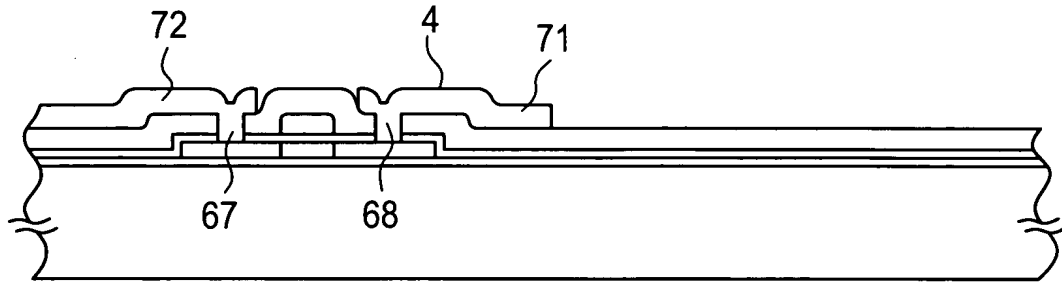


FIG. 6F

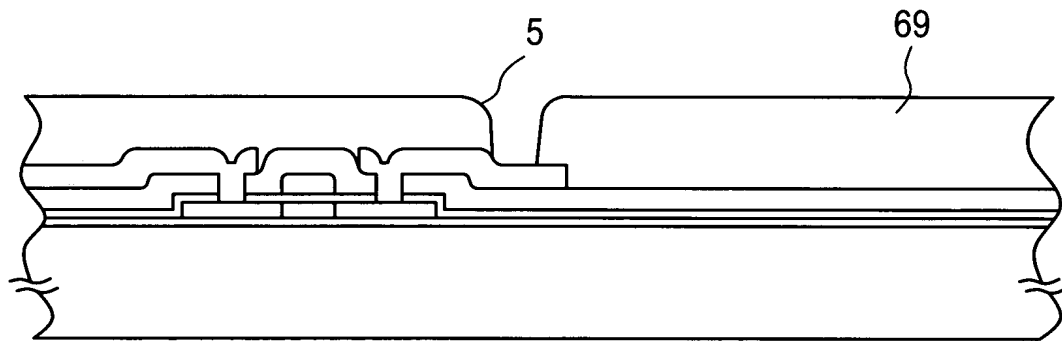
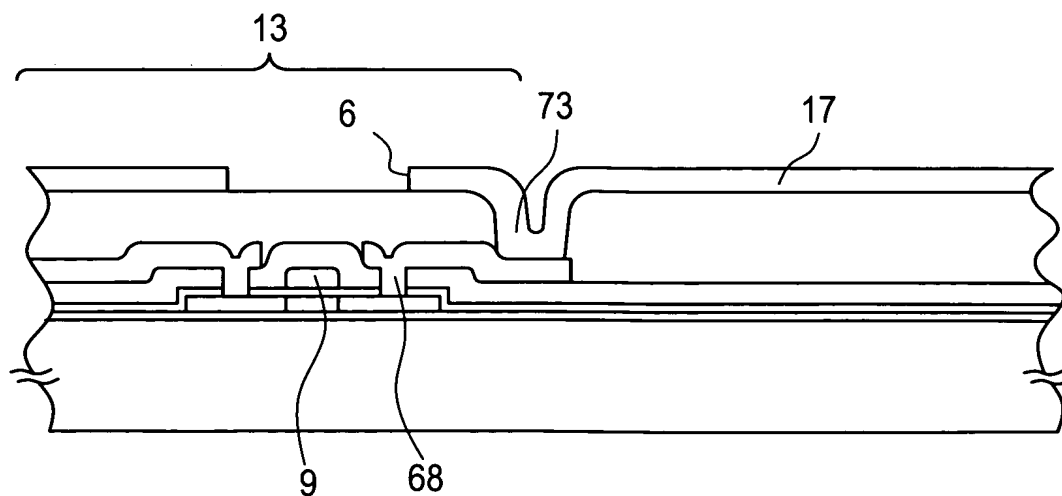


FIG. 6G

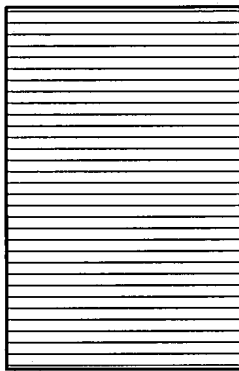




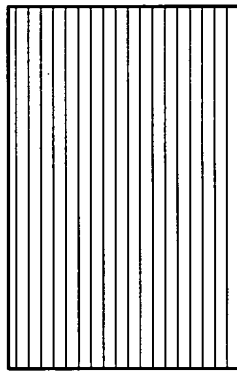
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FIG. 7

PIXEL A



PIXEL F



PIXEL I

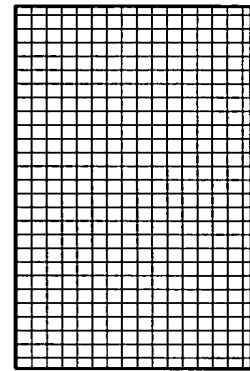


FIG. 8

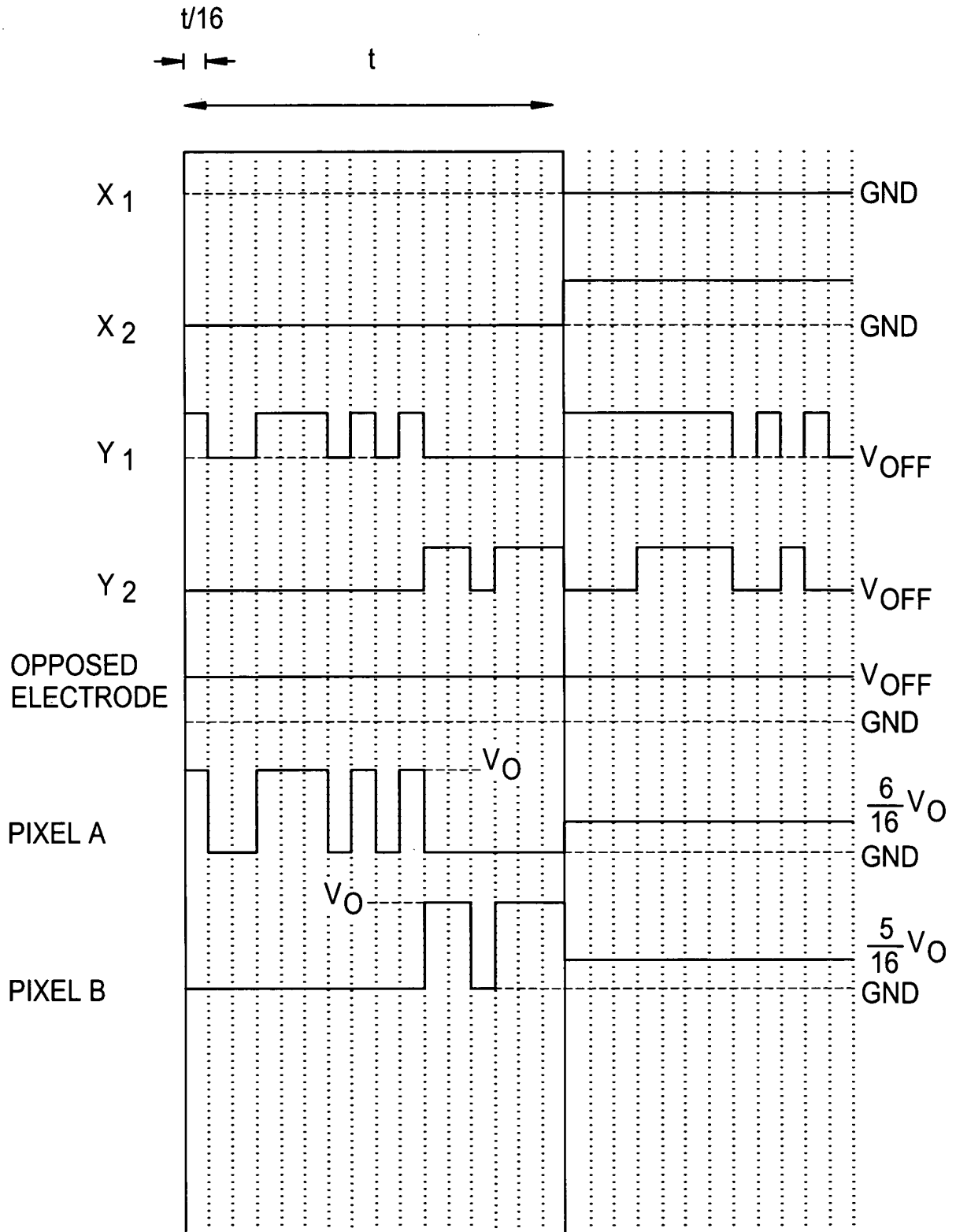
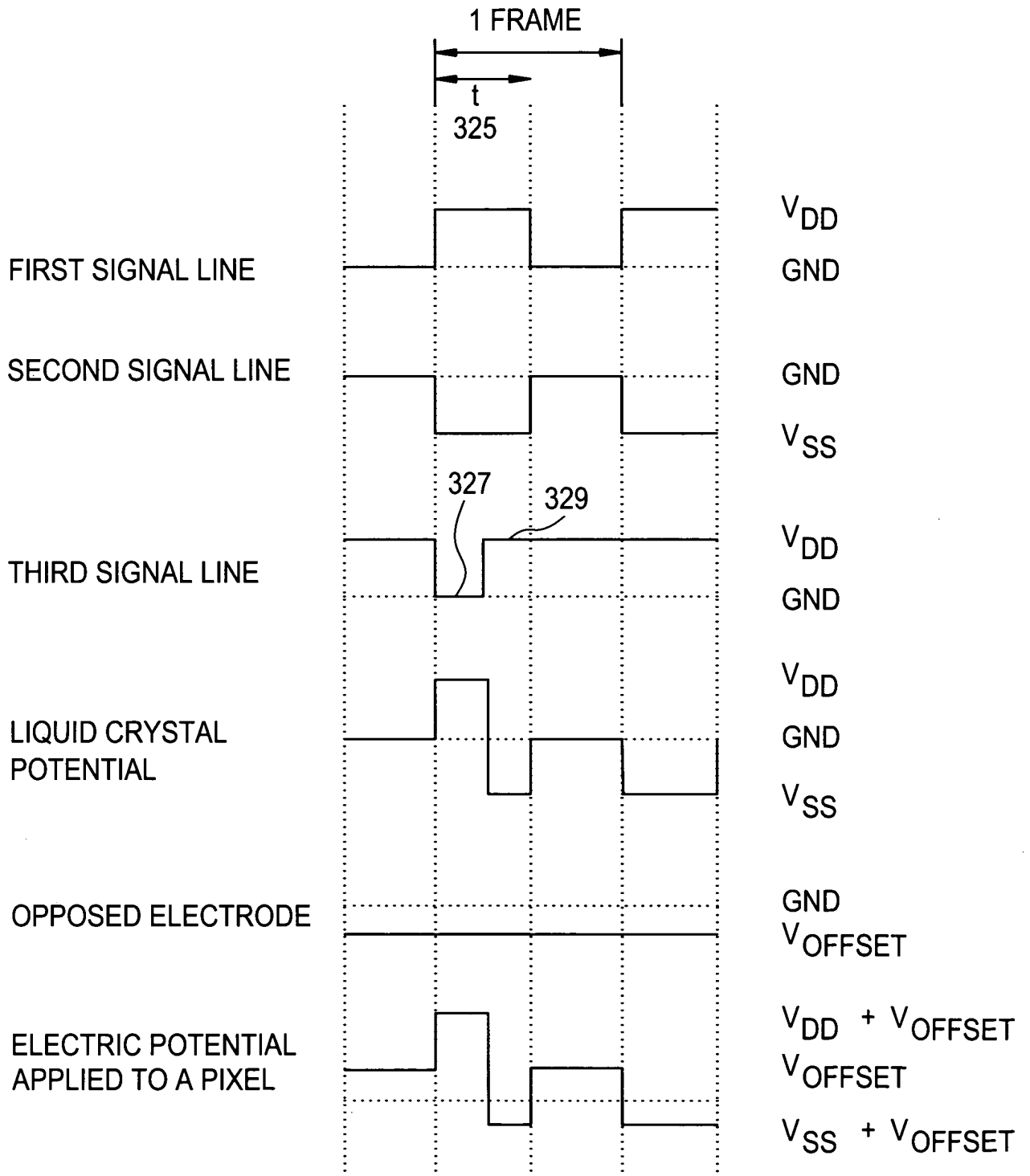


FIG. 9



The diagram illustrates a semiconductor device 101. The top portion is a cross-sectional view showing a substrate 102 with a central region 103. This region 103 contains a P-type layer 109, an N-type layer 108, and a central channel 110. The channel 110 is formed by a P-type layer 111 and an N-type layer 112. A gate structure 113 is positioned over the channel 110, with a gate oxide layer 114 and a gate electrode 115. A contact 116 is connected to the gate electrode 115. The bottom portion is a detailed view of the central region 103, showing the P-type layer 109, the N-type layer 108, and the central channel 110. The channel 110 is formed by a P-type layer 111 and an N-type layer 112. A gate structure 113 is positioned over the channel 110, with a gate oxide layer 114 and a gate electrode 115. A contact 116 is connected to the gate electrode 115. The bottom portion is a detailed view of the central region 103, showing the P-type layer 109, the N-type layer 108, and the central channel 110. The channel 110 is formed by a P-type layer 111 and an N-type layer 112. A gate structure 113 is positioned over the channel 110, with a gate oxide layer 114 and a gate electrode 115. A contact 116 is connected to the gate electrode 115.



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FIG. 11

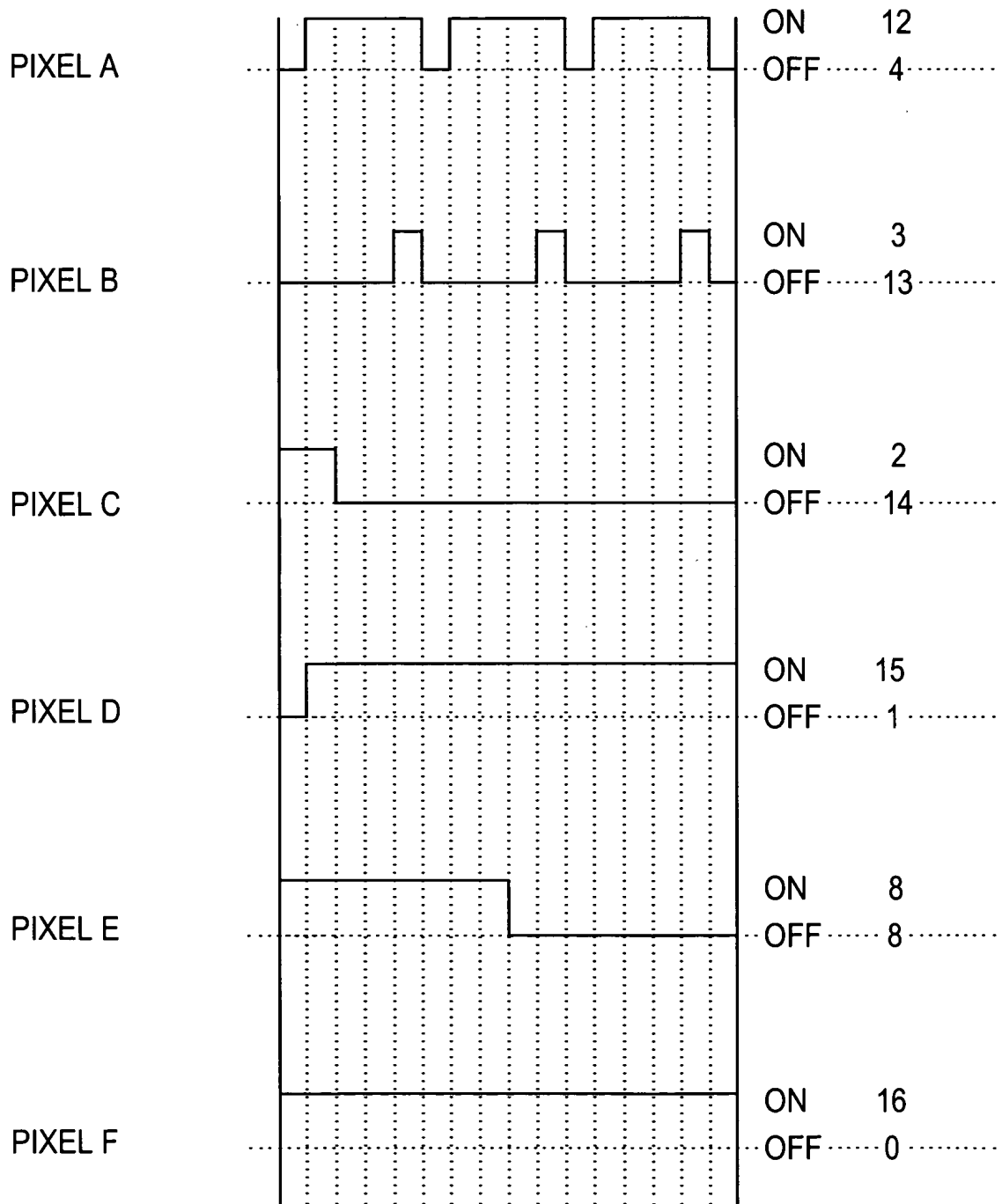




FIG. 12

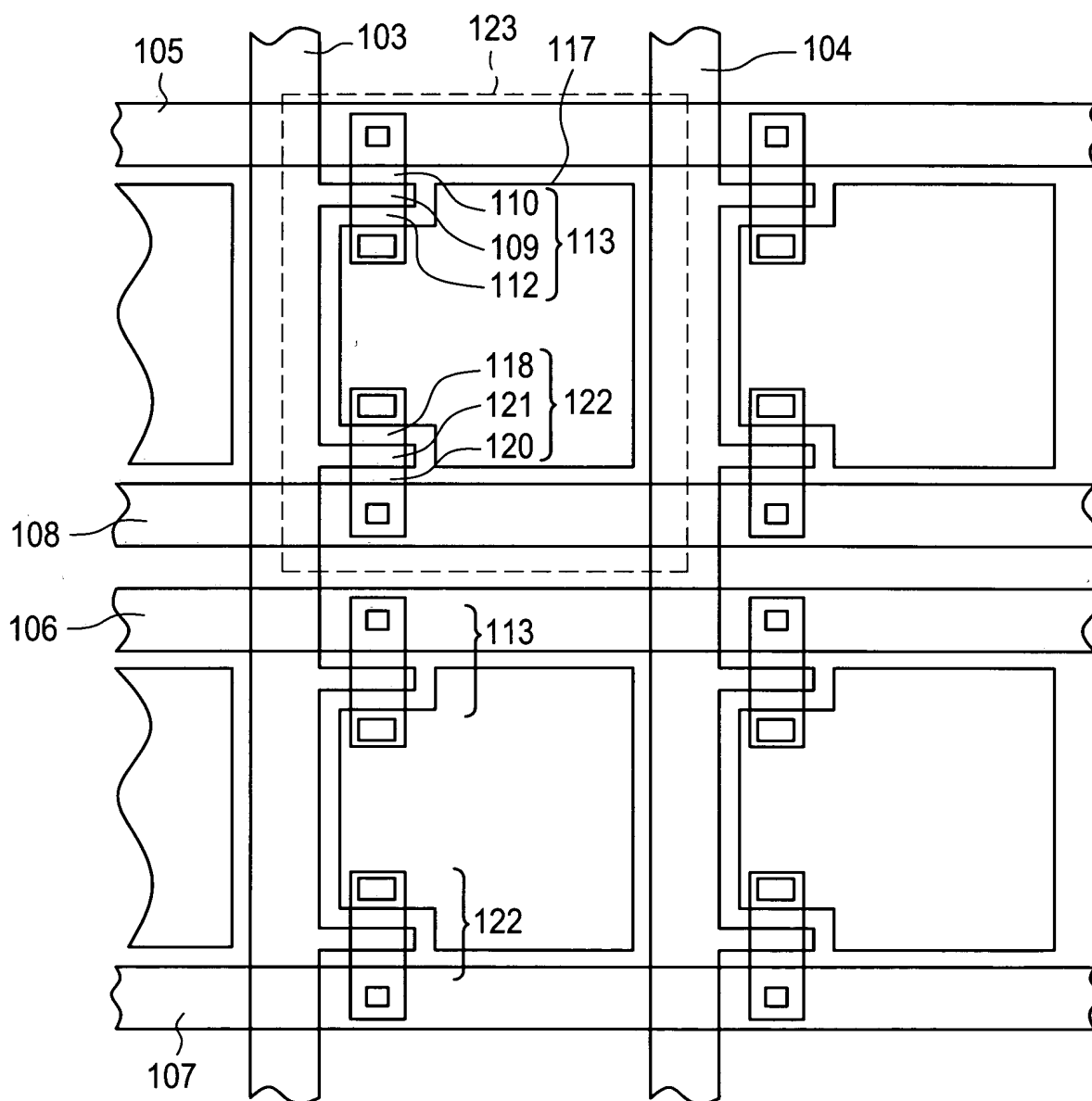




FIG. 13A

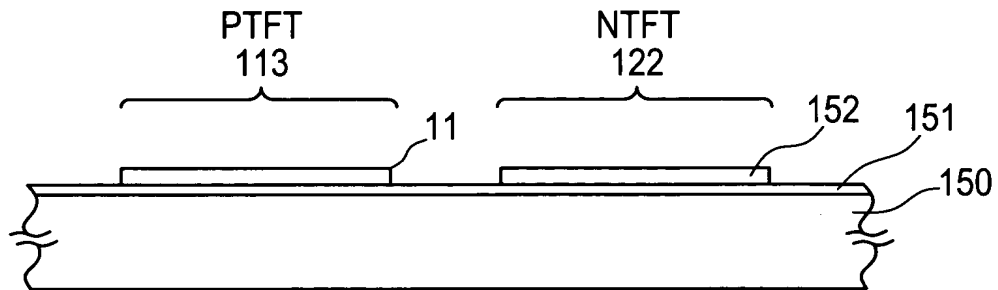


FIG. 13B

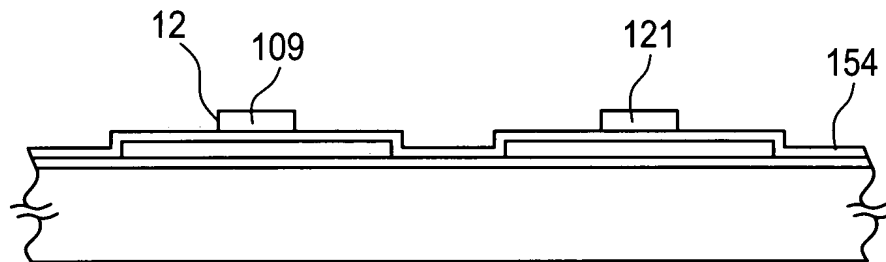


FIG. 13C

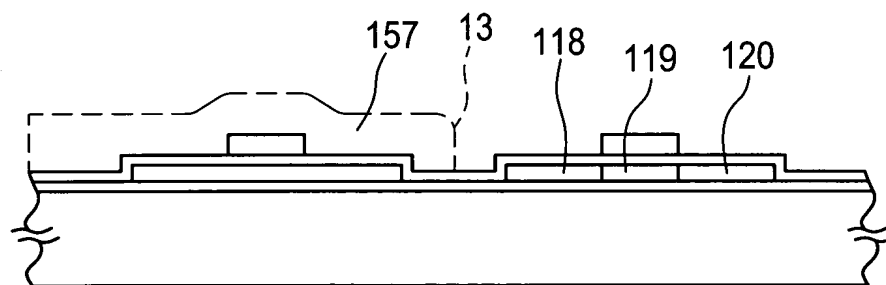


FIG. 13D

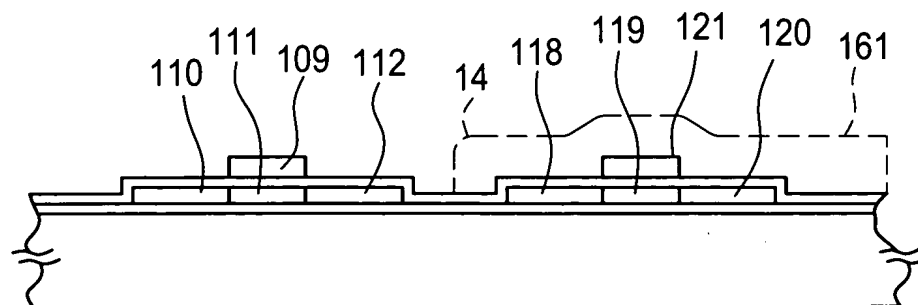




FIG. 13E

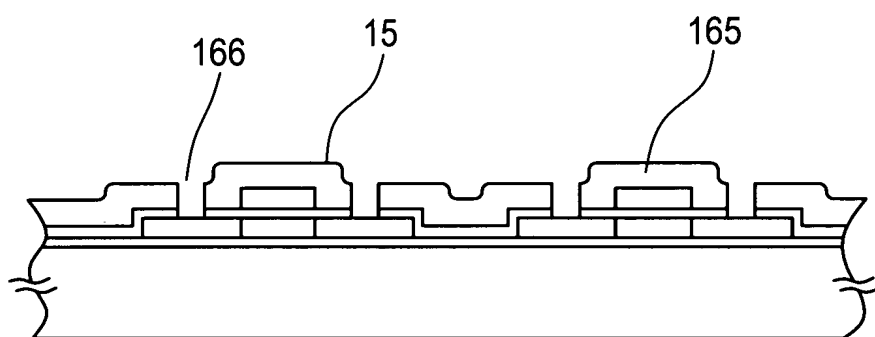
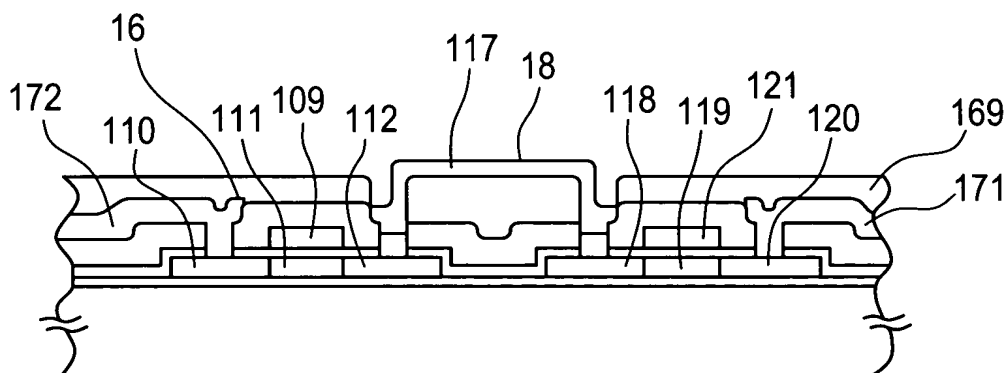


FIG. 13F

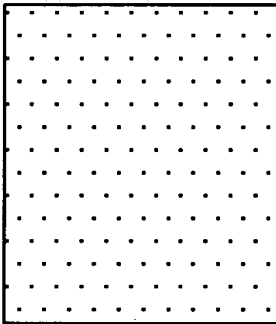




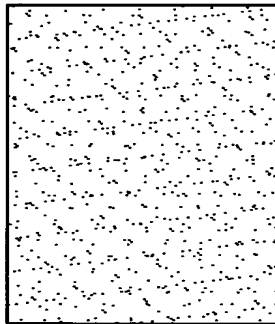
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FIG. 14

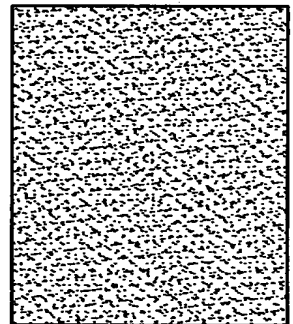
PIXEL A

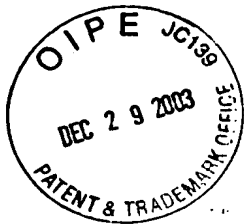


PIXEL E



PIXEL C





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FIG. 15

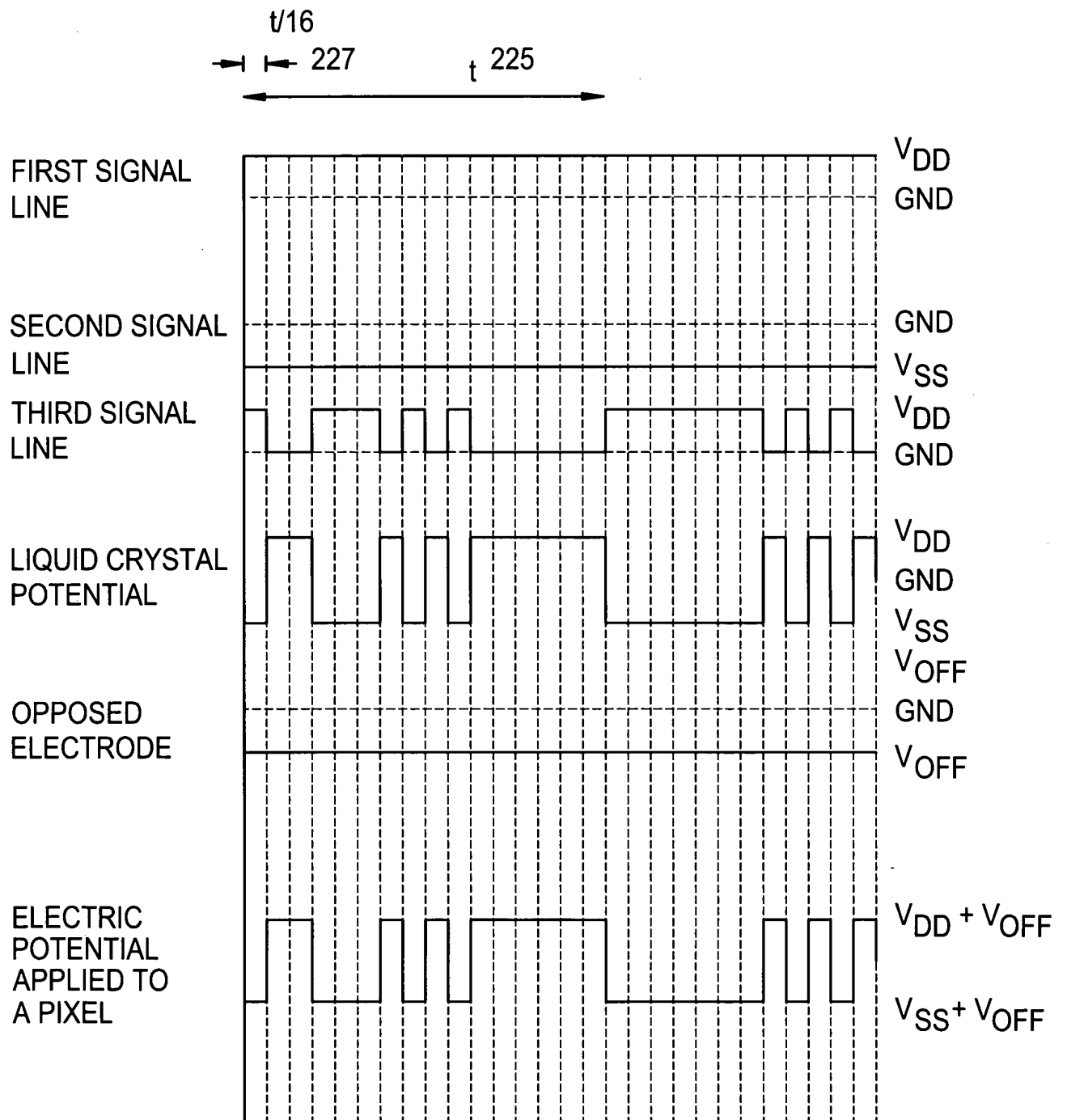


FIG. 16

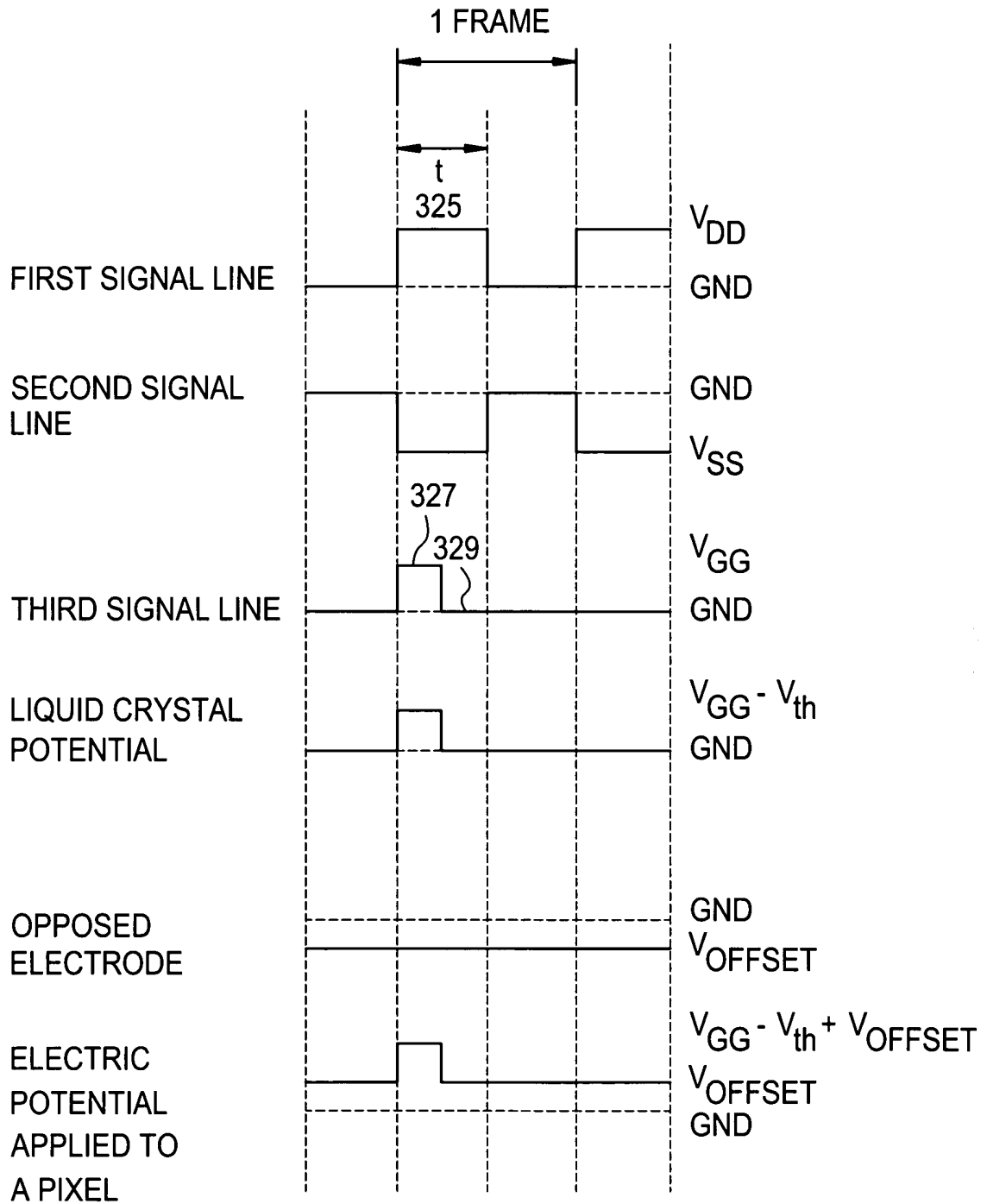


FIG. 17

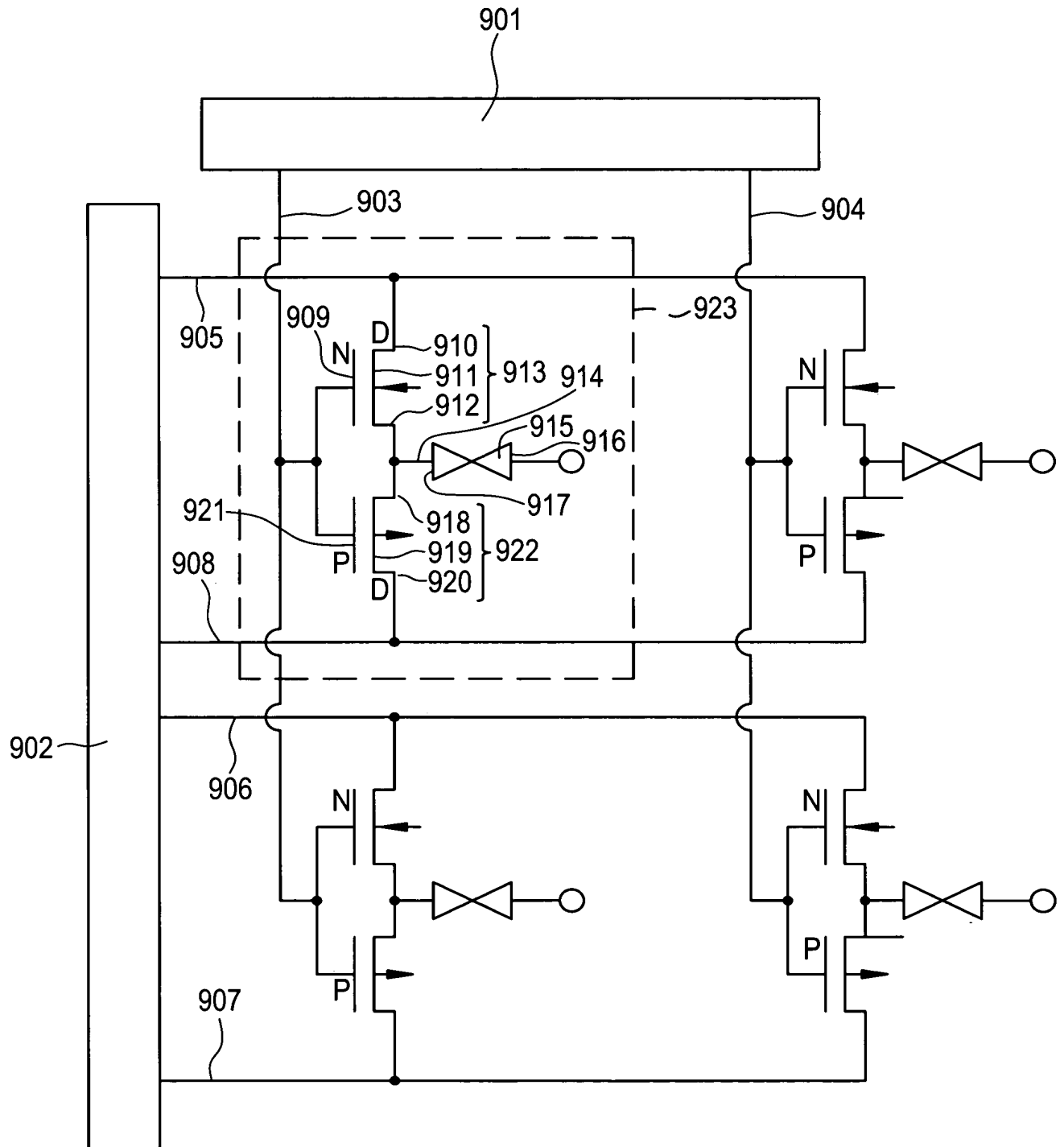




FIG. 18A

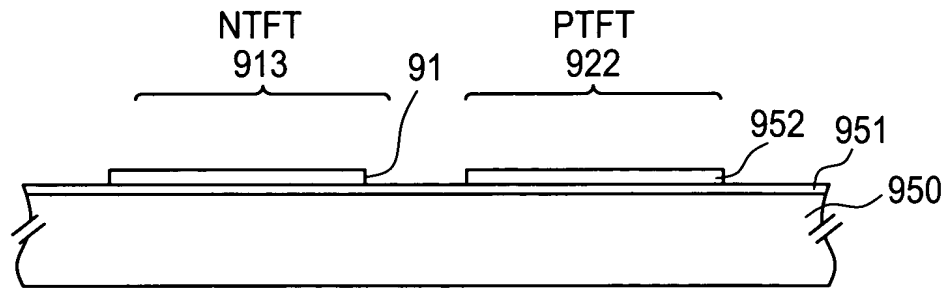


FIG. 18B

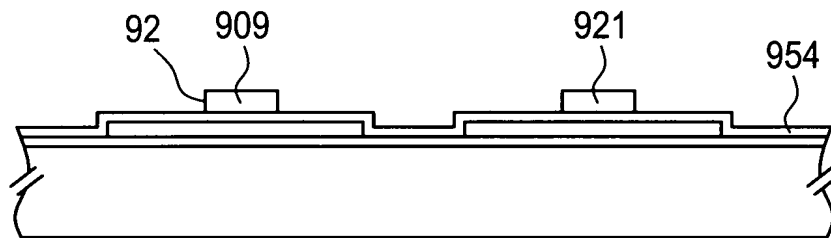


FIG. 18C

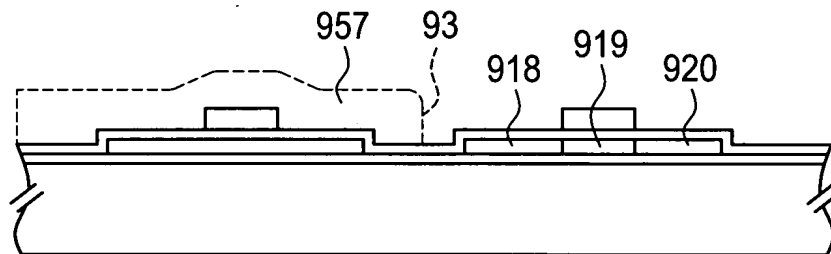


FIG. 18D

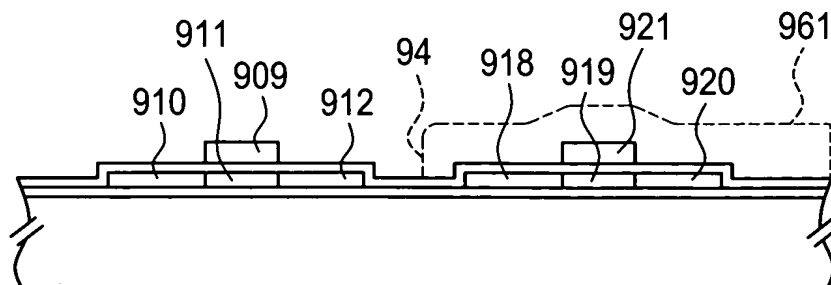


FIG. 18E

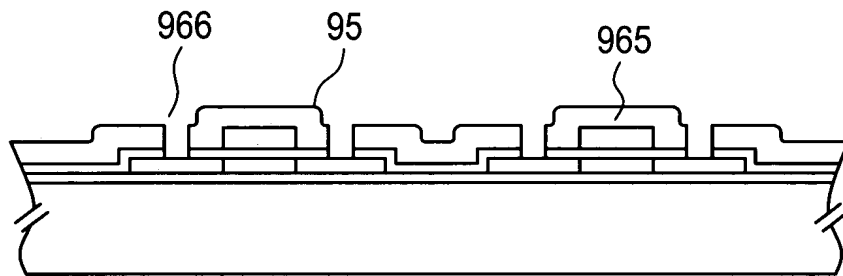


FIG. 18F

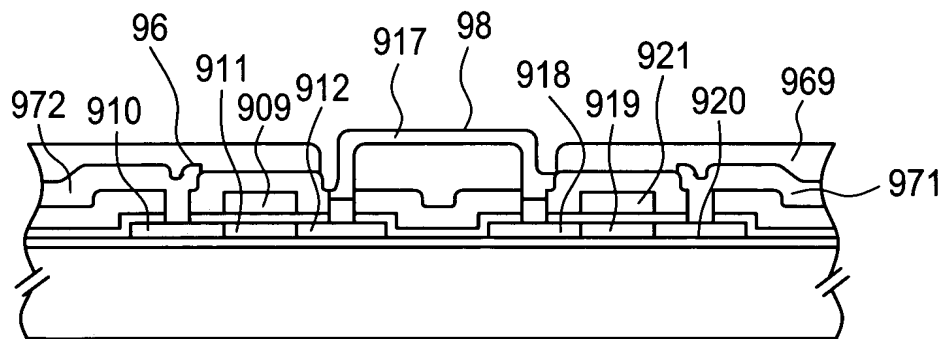


FIG. 19

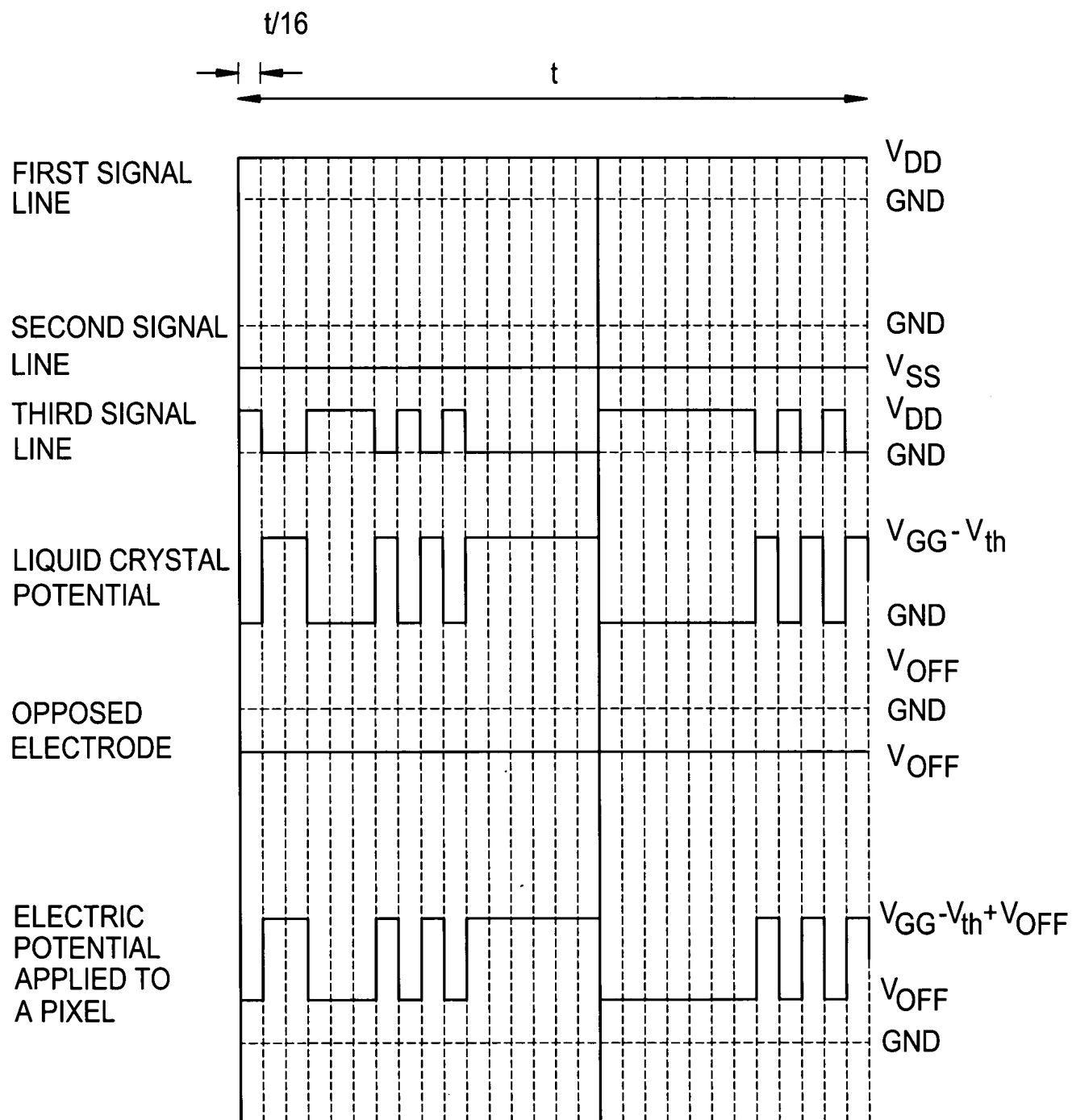




FIG. 20

PRIOR ART

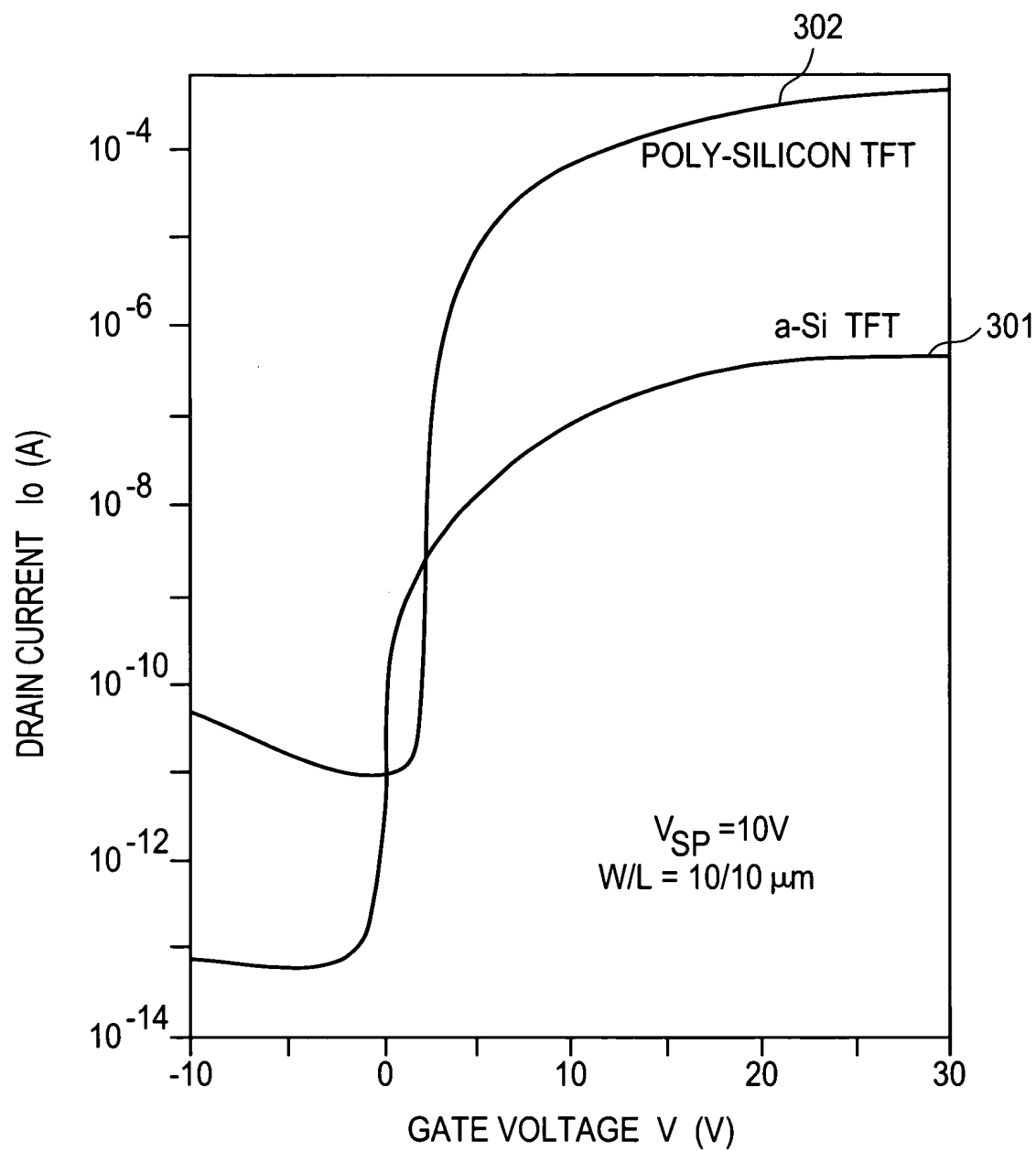
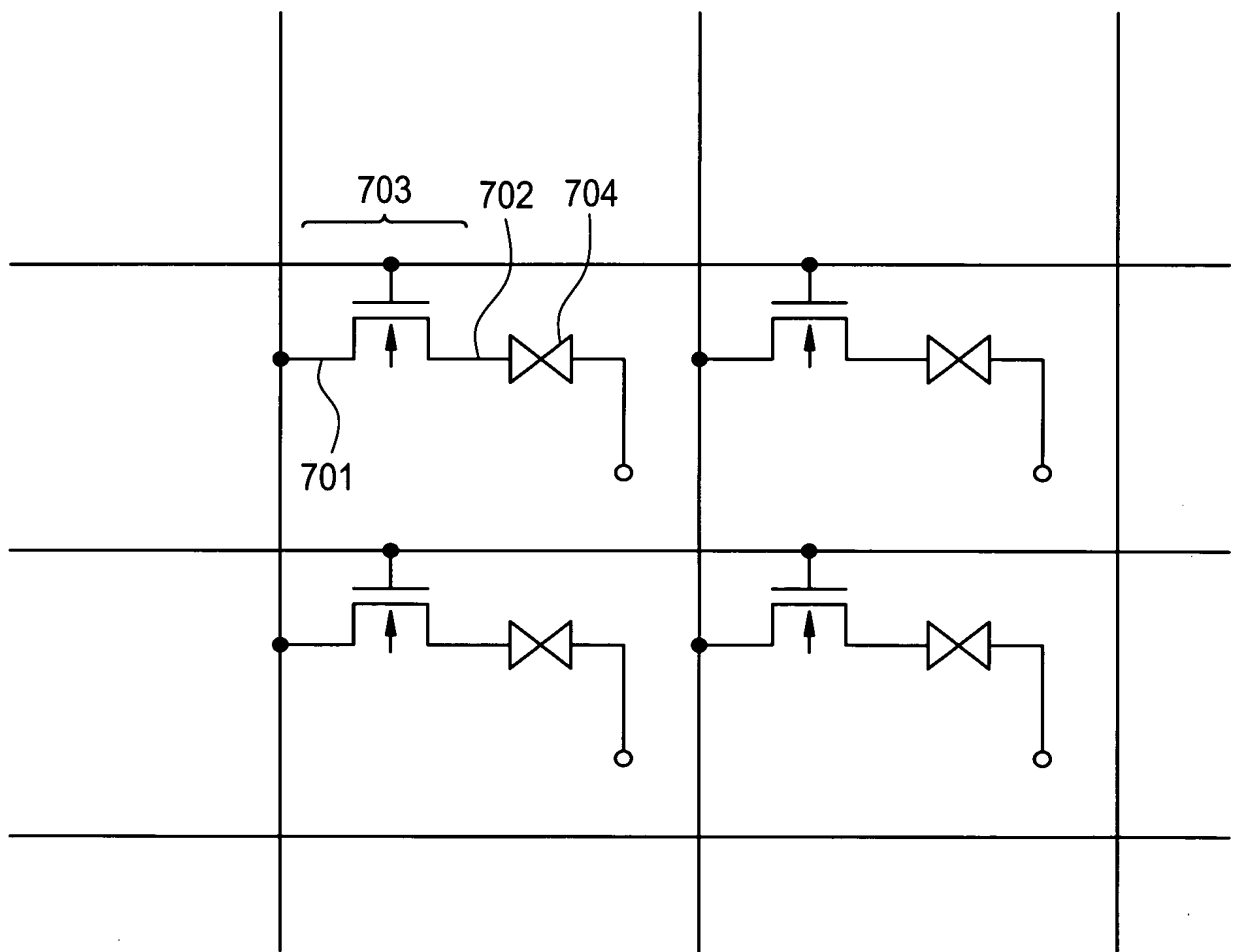




FIG. 21





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FIG. 22A

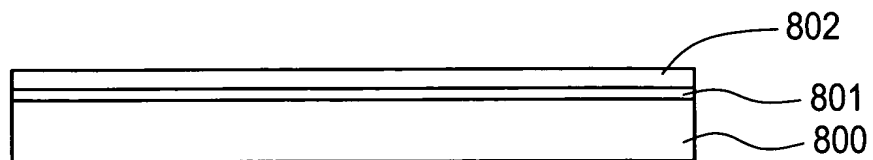


FIG. 22B

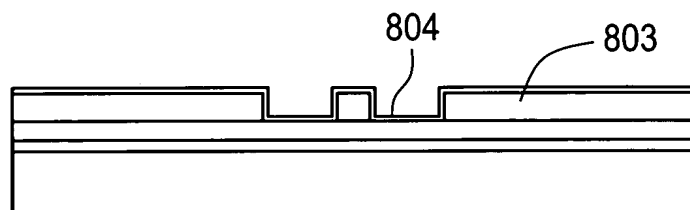


FIG. 22C

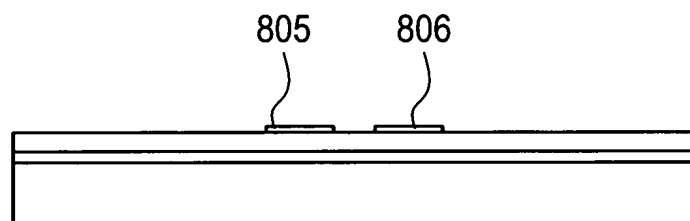


FIG. 22D

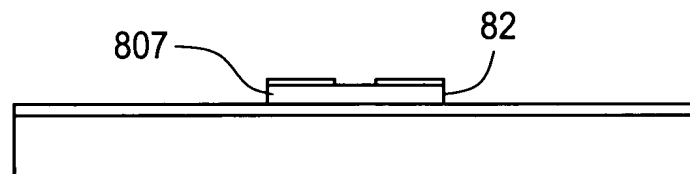
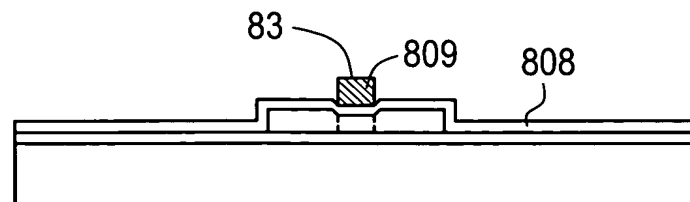


FIG. 22E





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FIG. 22F

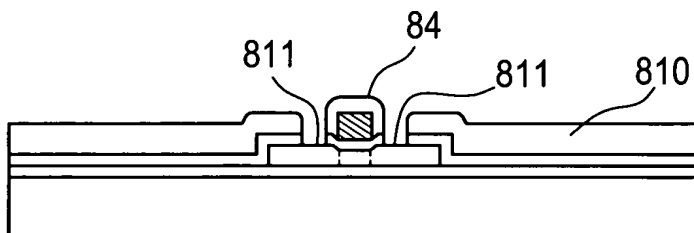


FIG. 22G

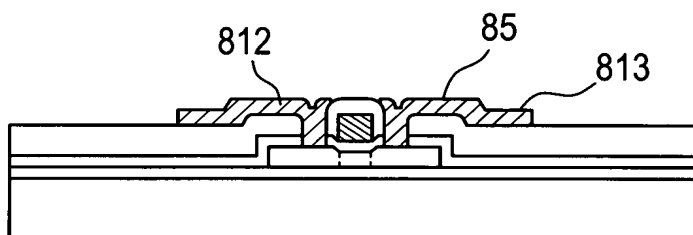


FIG. 22H

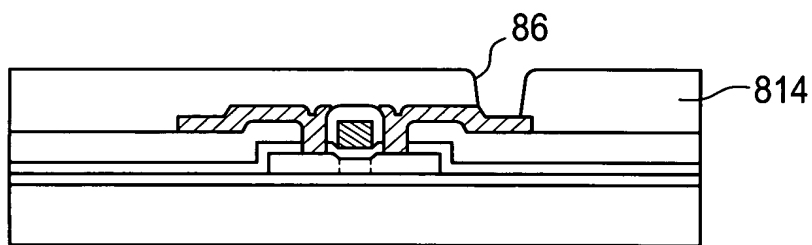


FIG. 22I

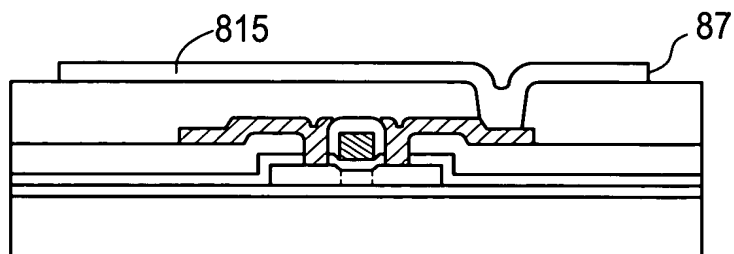


FIG. 23A

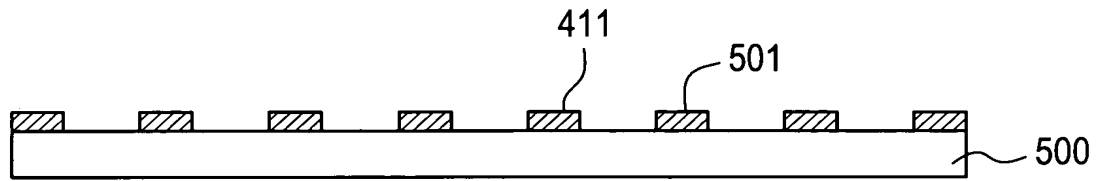


FIG. 23B

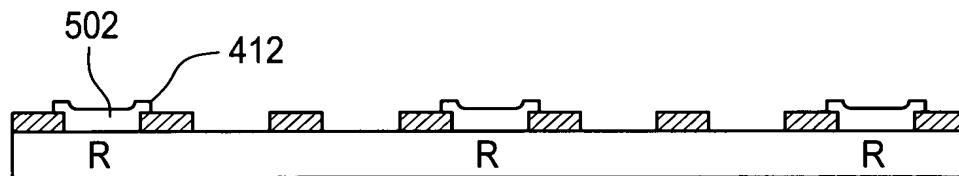


FIG. 23C

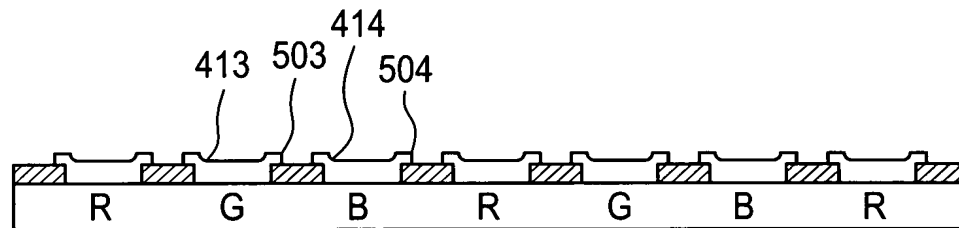


FIG. 23D

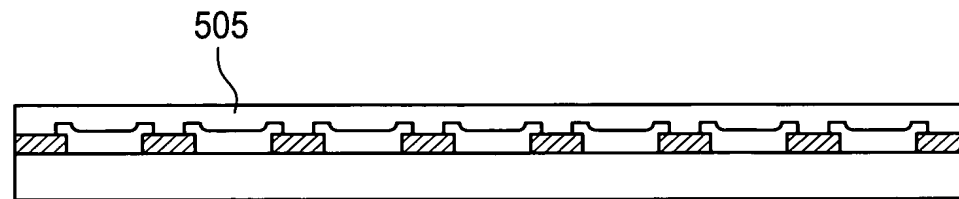
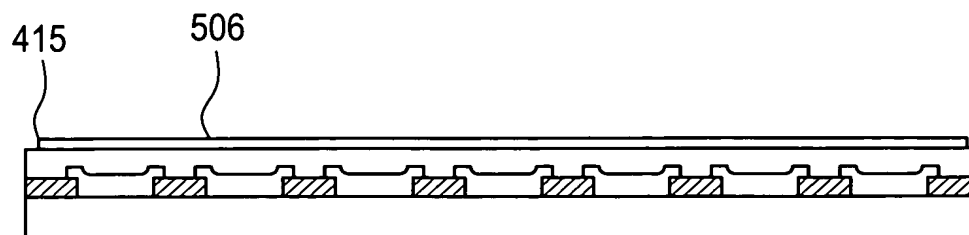


FIG. 23E



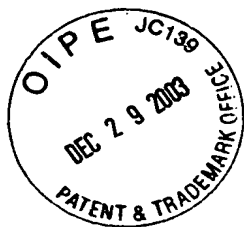


FIG. 24

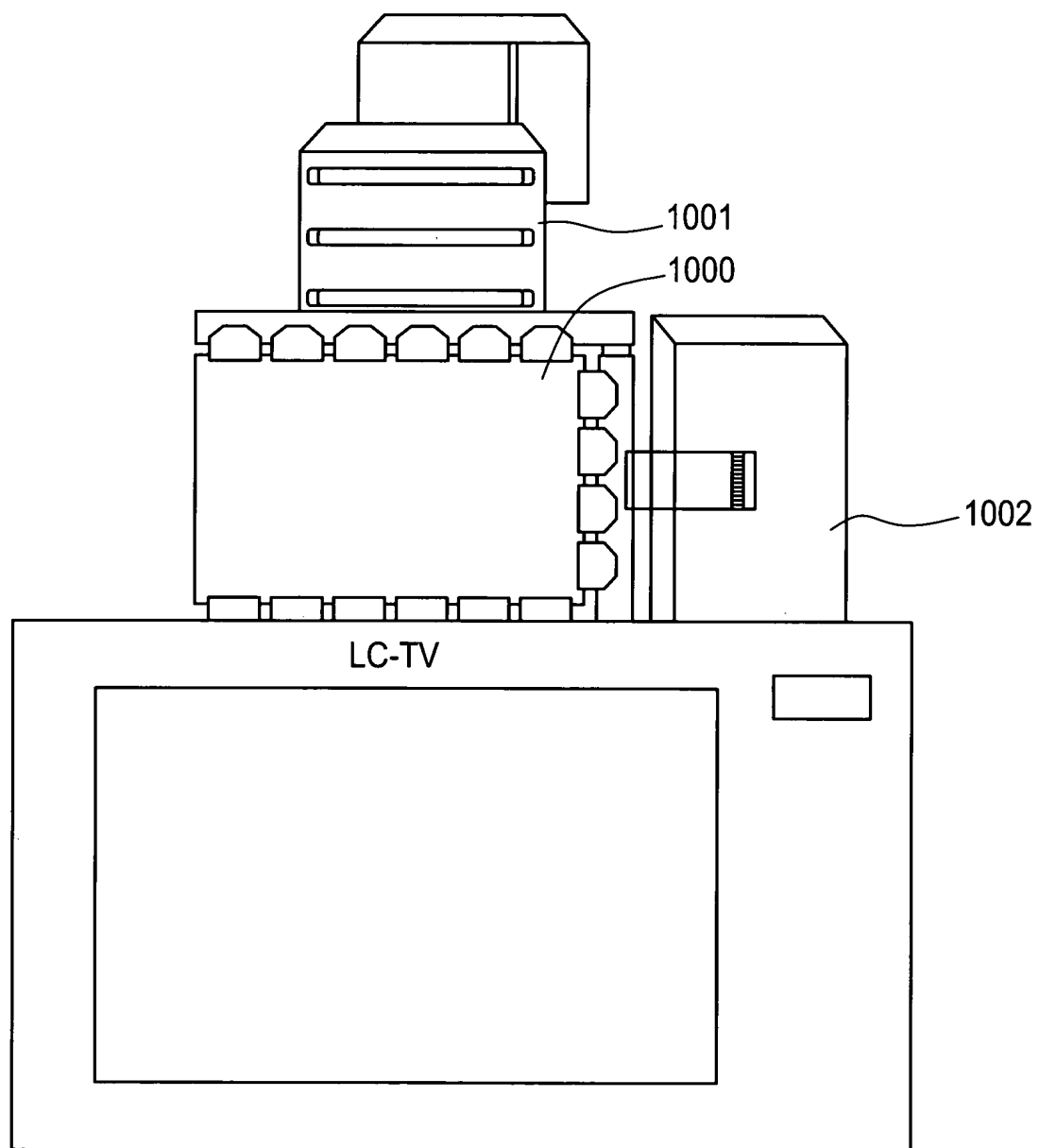




FIG. 25

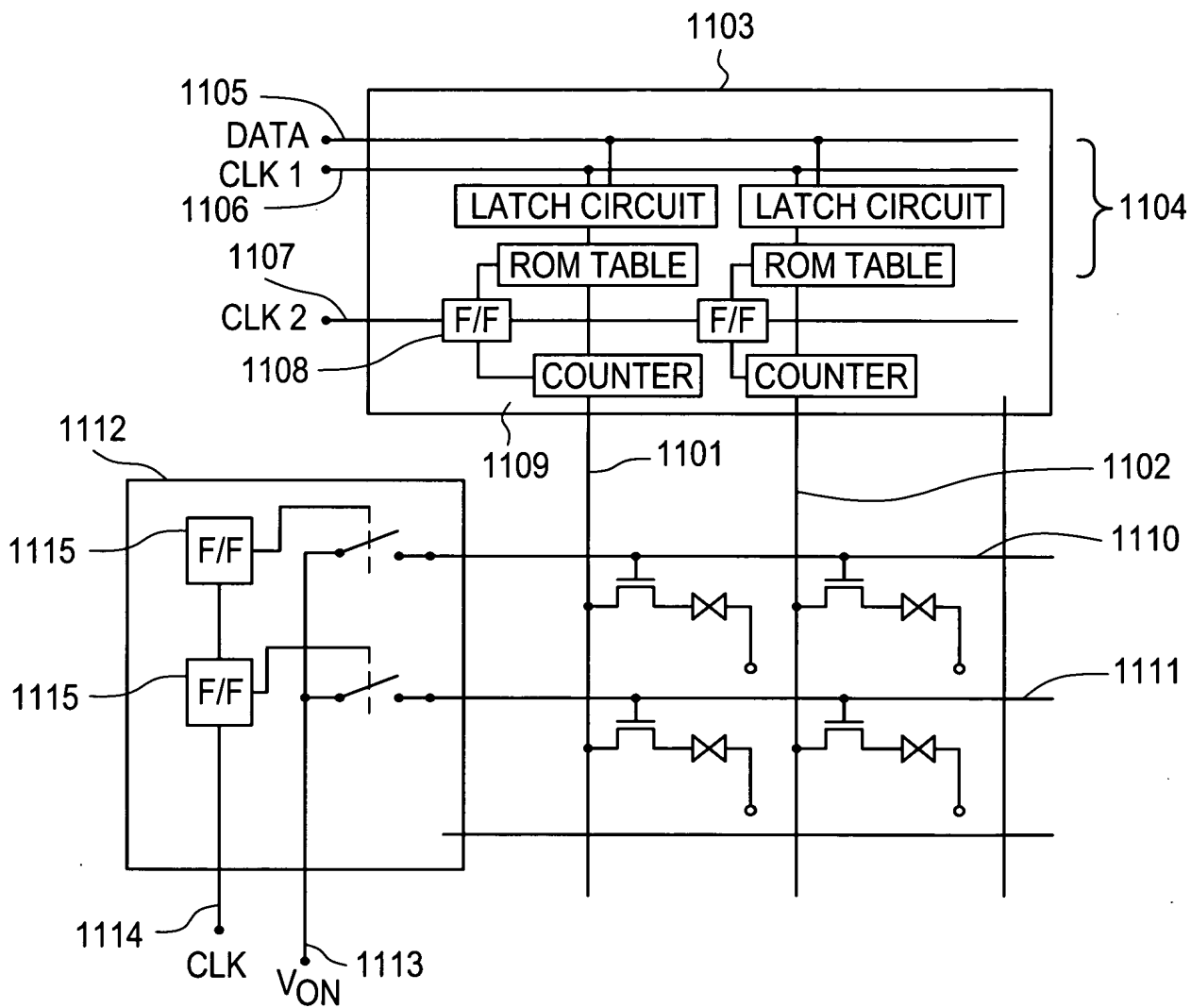


FIG. 26A

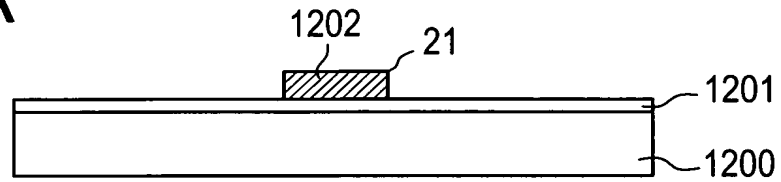


FIG. 26B

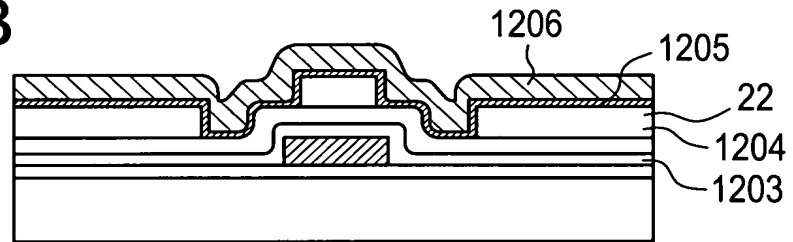


FIG. 26C

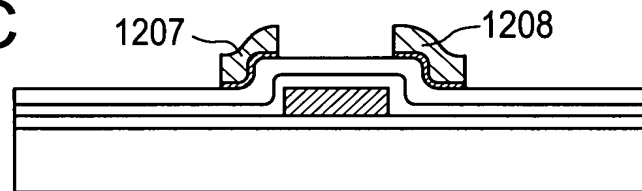


FIG. 26D

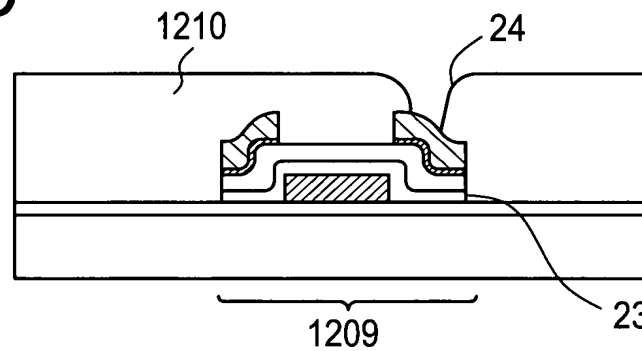


FIG. 26E

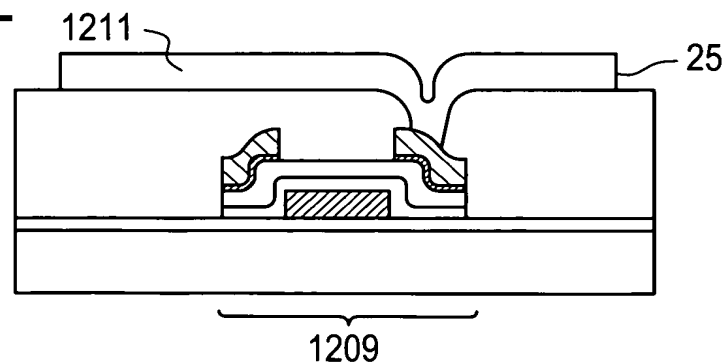


FIG. 27

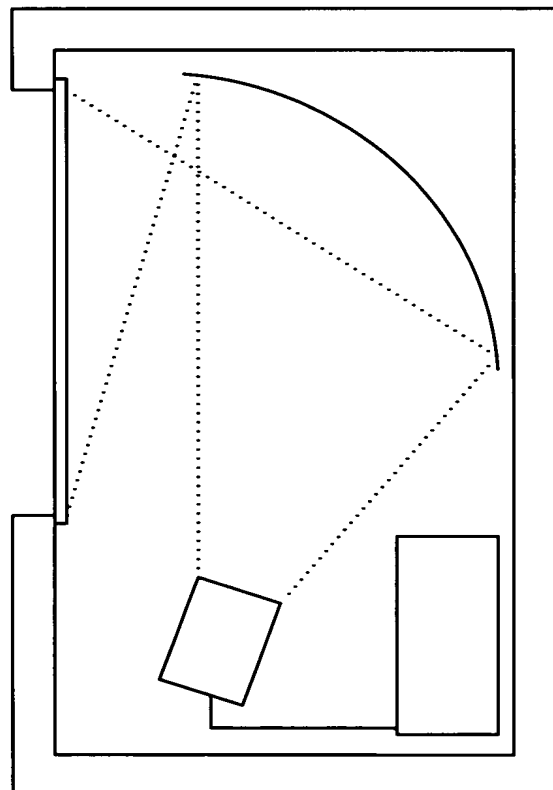
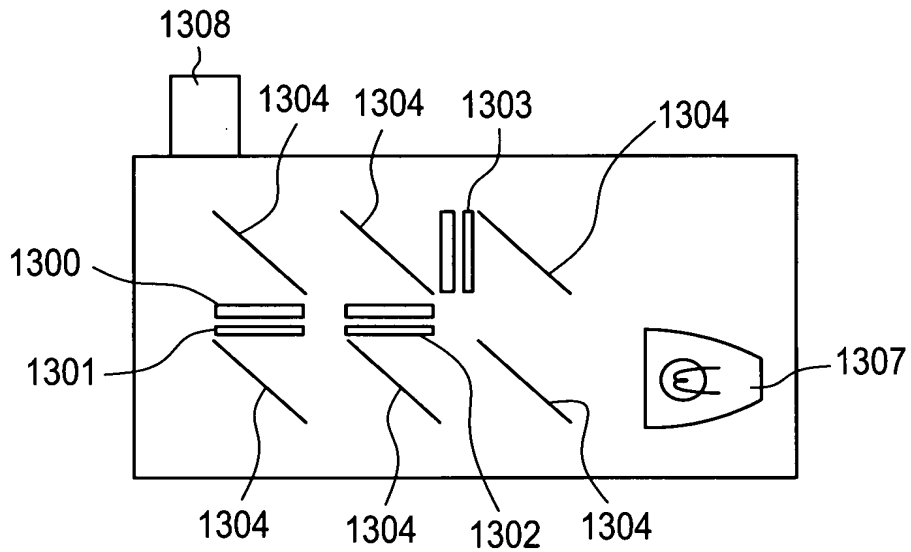




FIG. 28A

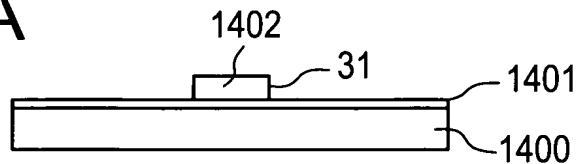


FIG. 28B

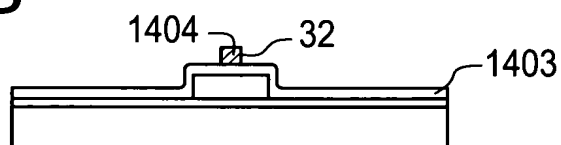


FIG. 28C

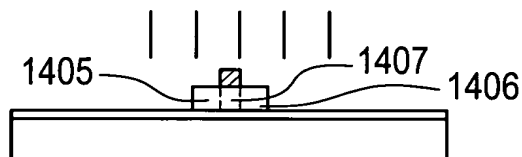


FIG. 28D

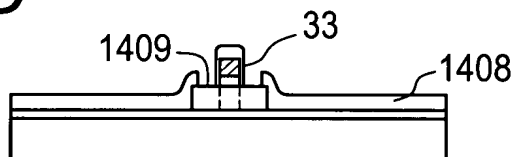


FIG. 28E

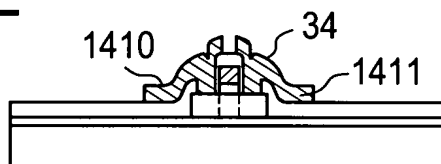


FIG. 28F

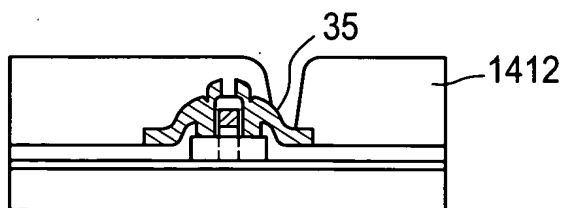
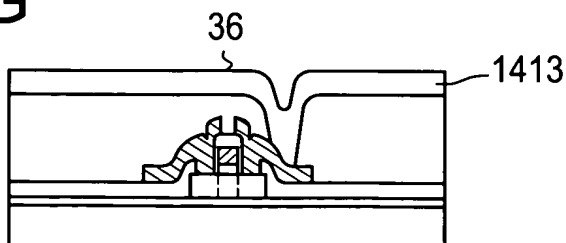


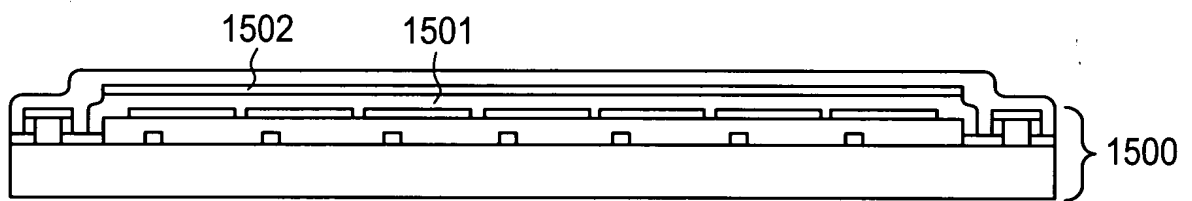
FIG. 28G





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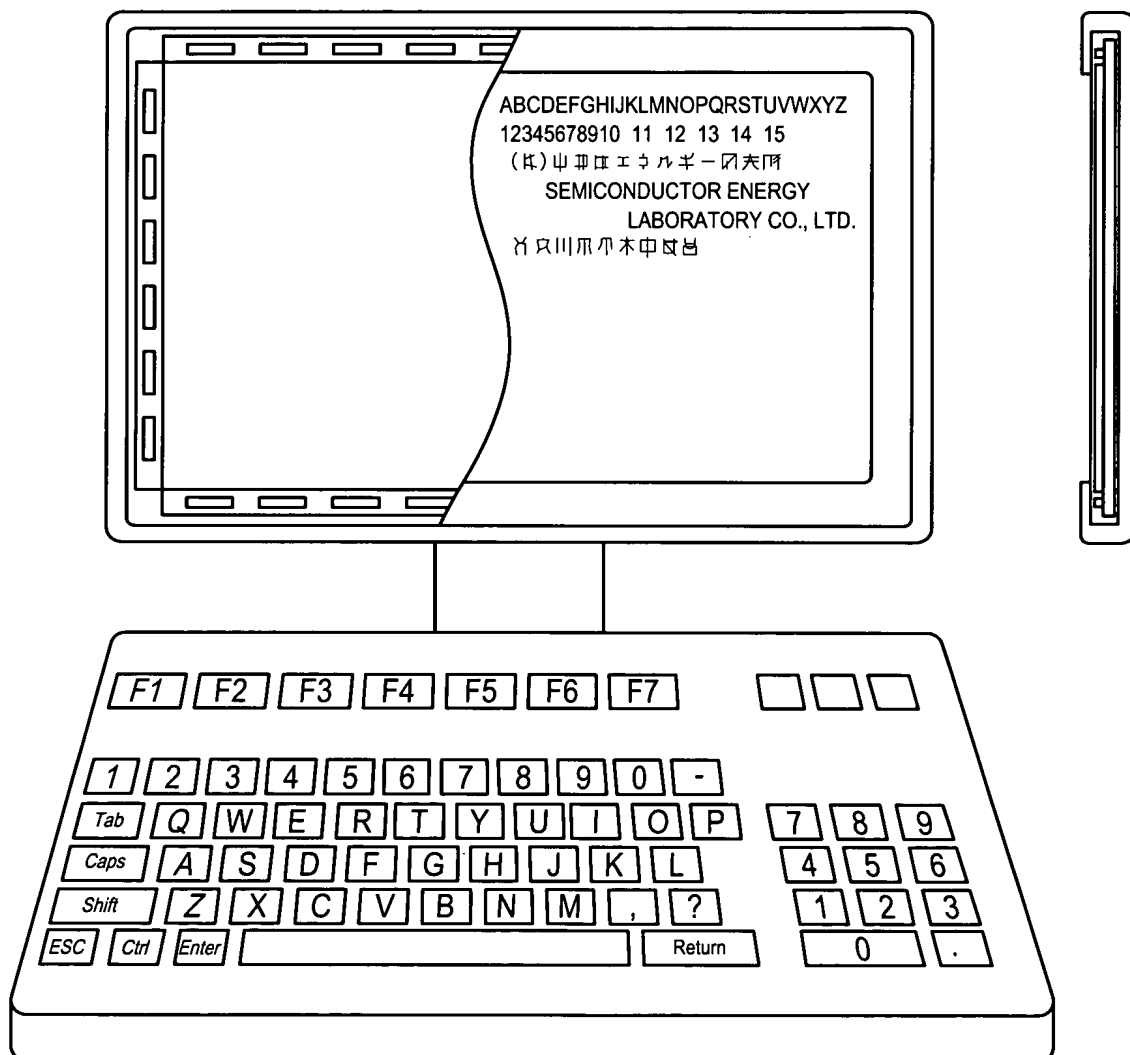
FIG. 29





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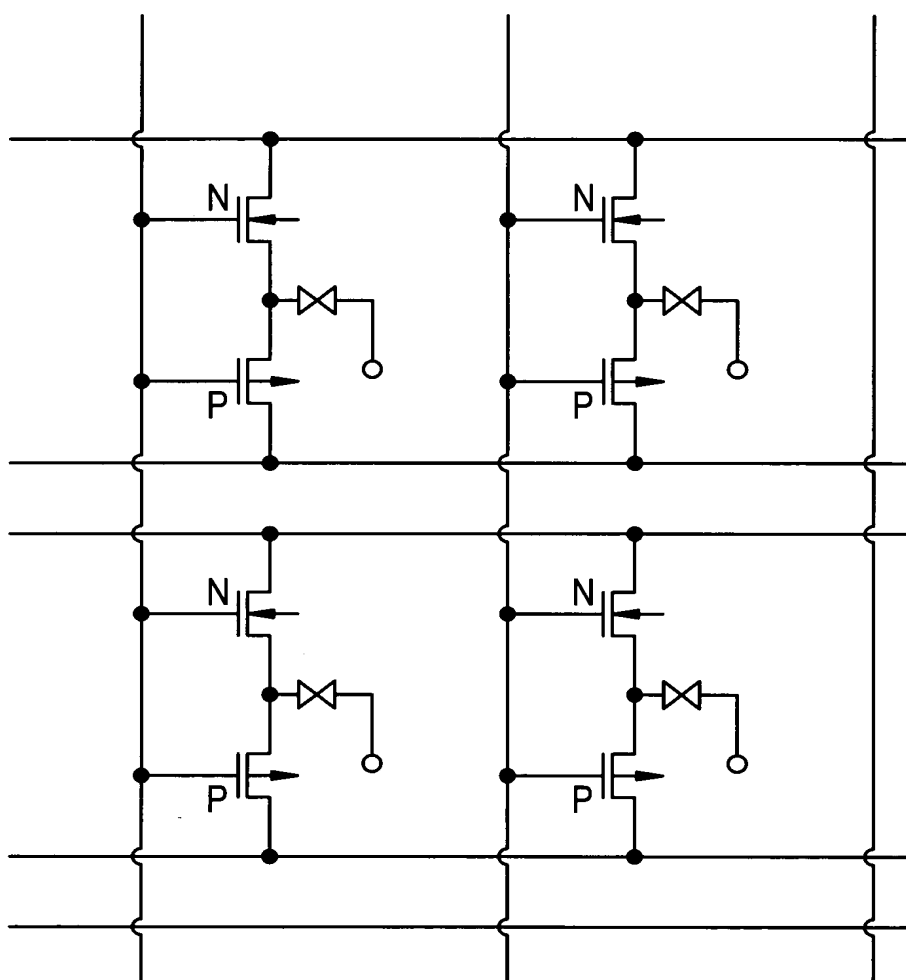
FIG. 30





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FIG. 31





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FIG. 32

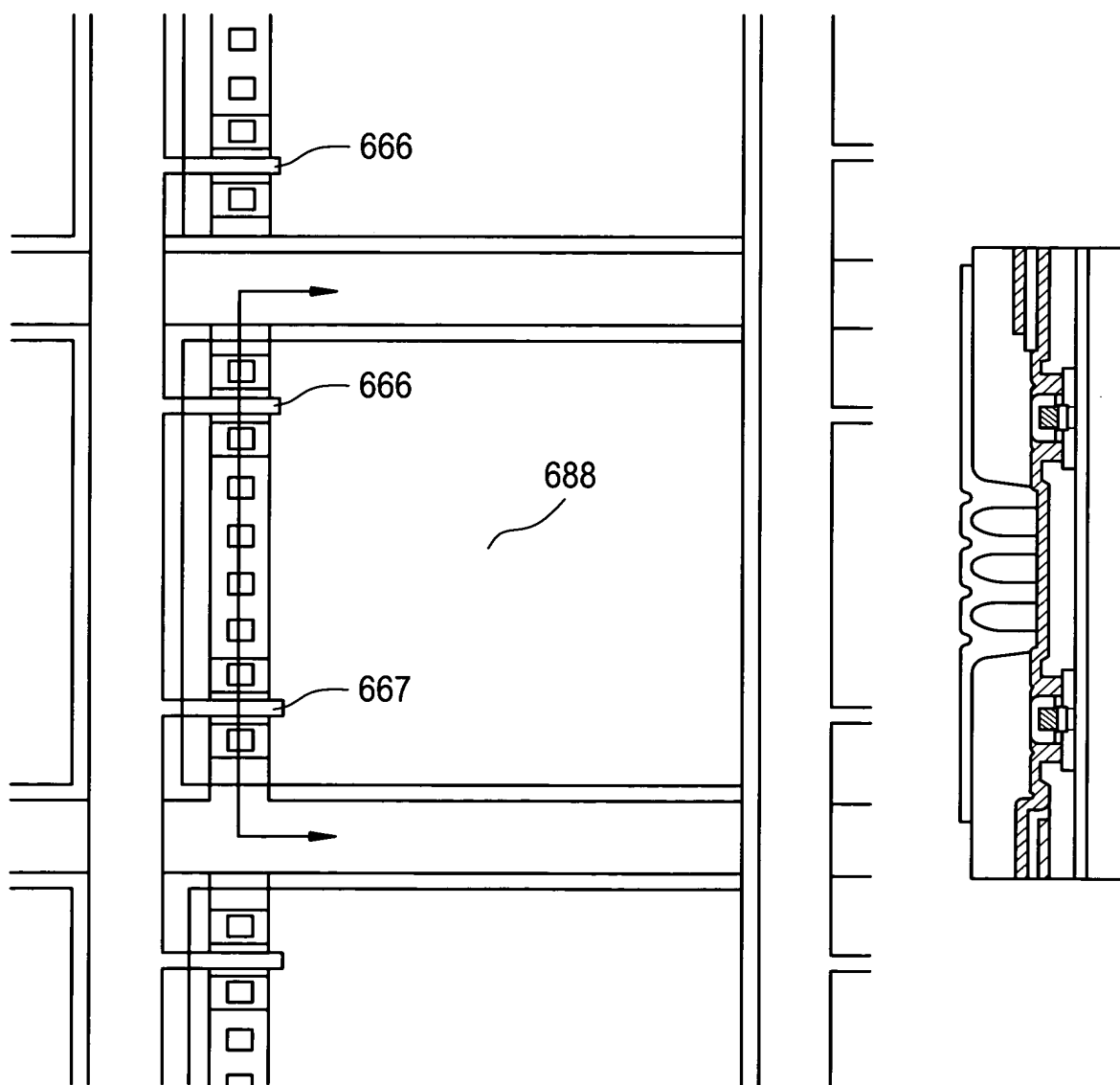


FIG. 33A

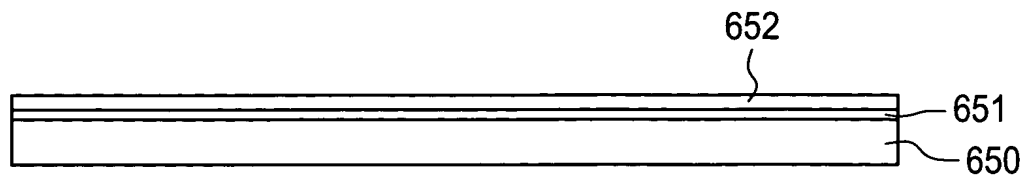


FIG. 33B

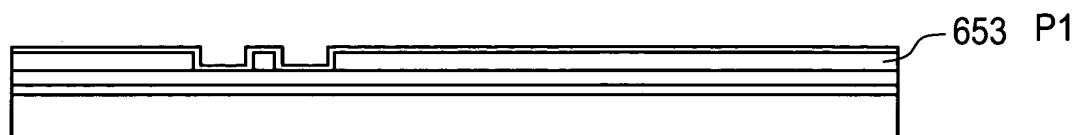


FIG. 33C

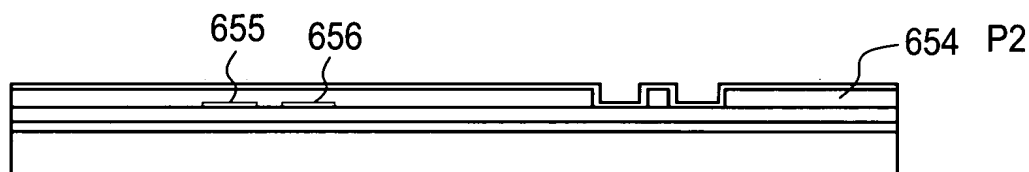


FIG. 33D

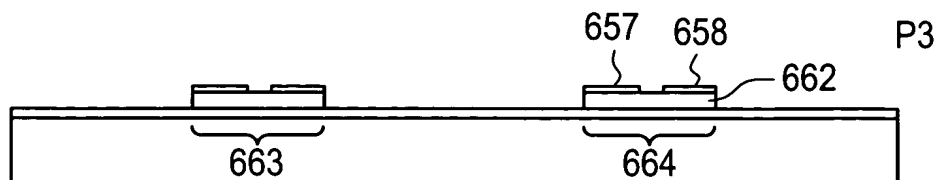


FIG. 33E

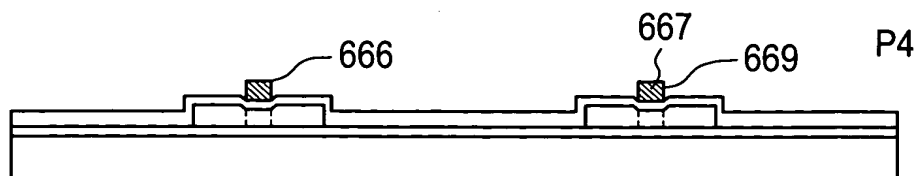


FIG. 33F

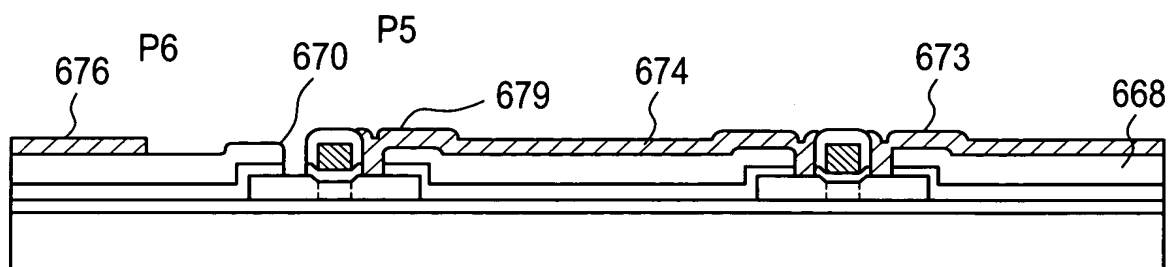


FIG. 33G

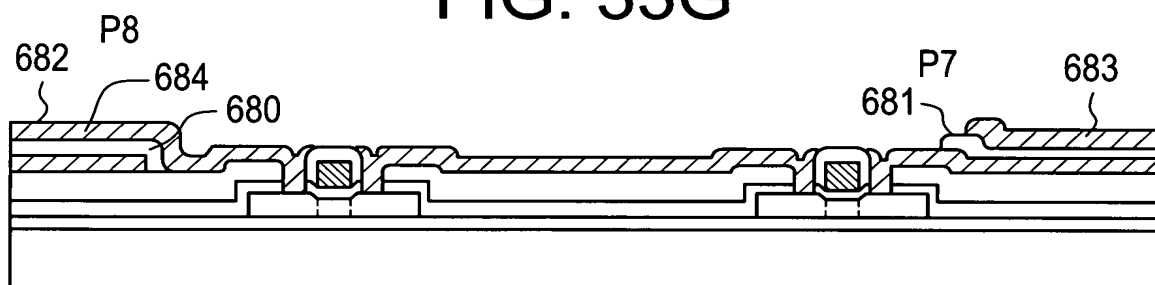


FIG. 33H

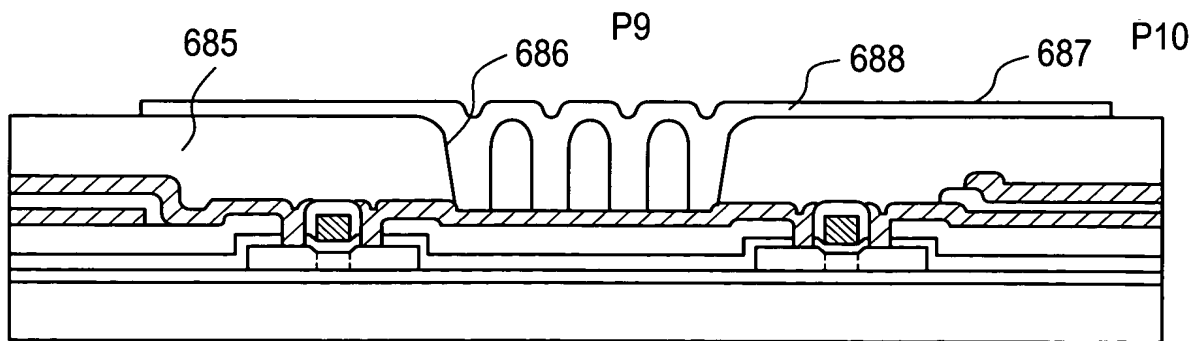
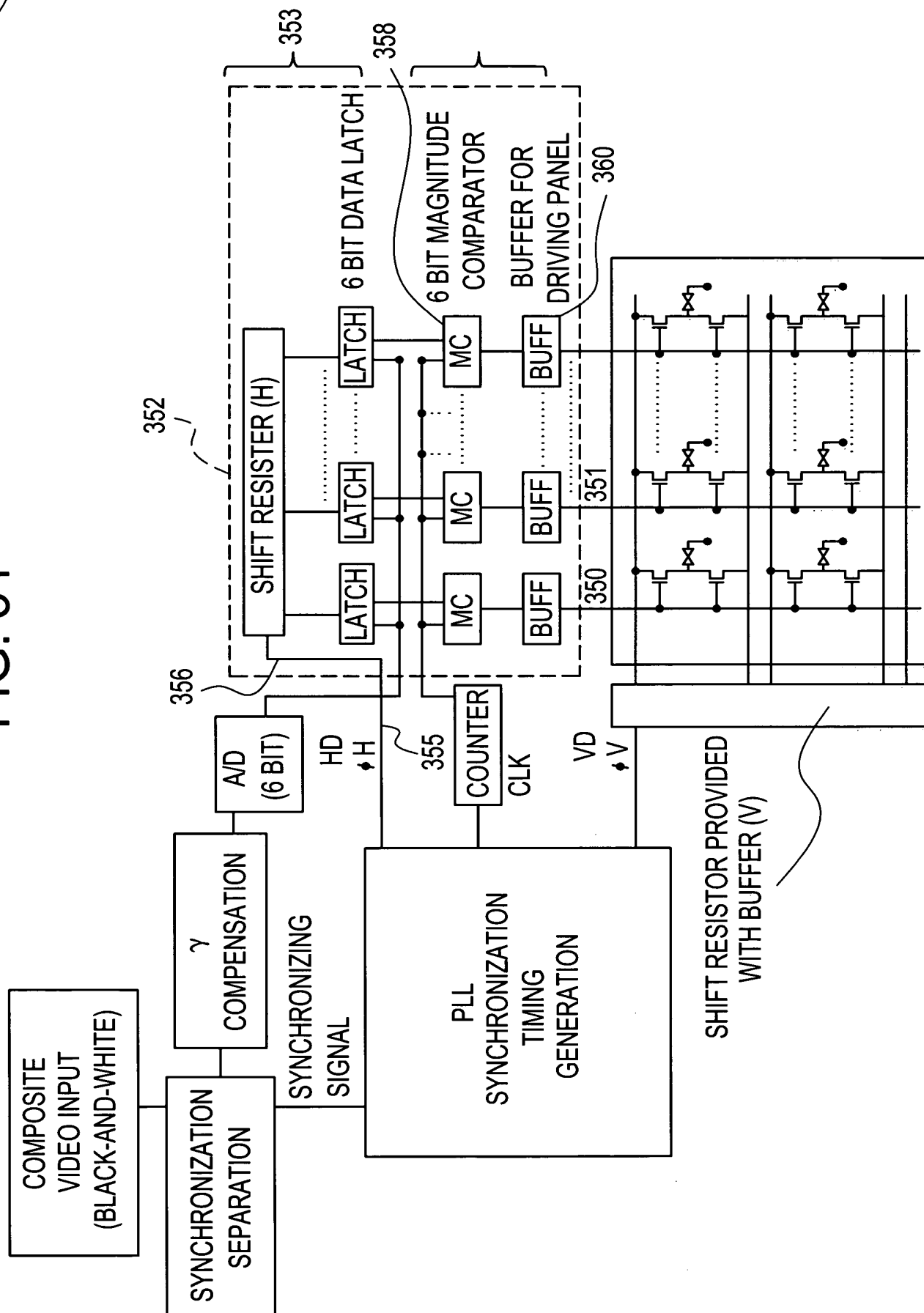


FIG. 34





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FIG. 35A

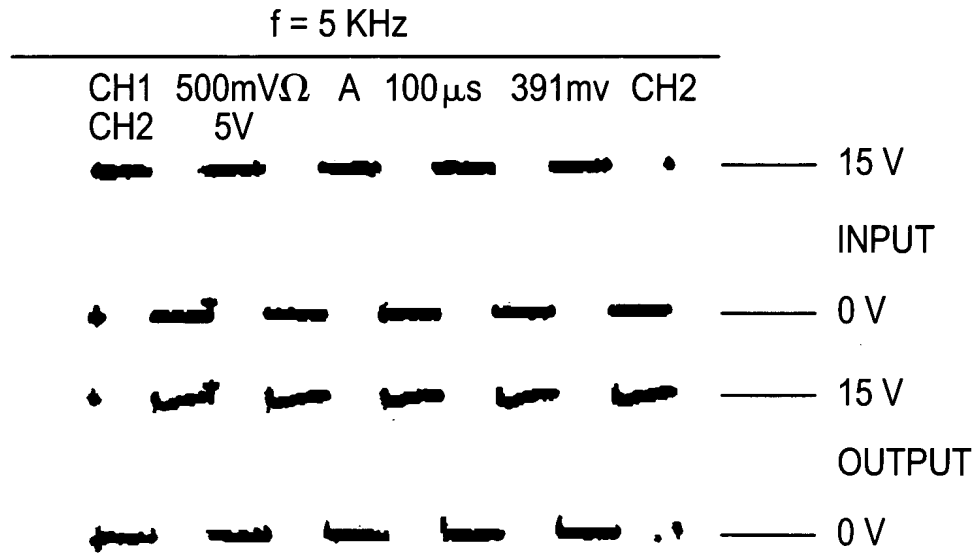


FIG. 35B

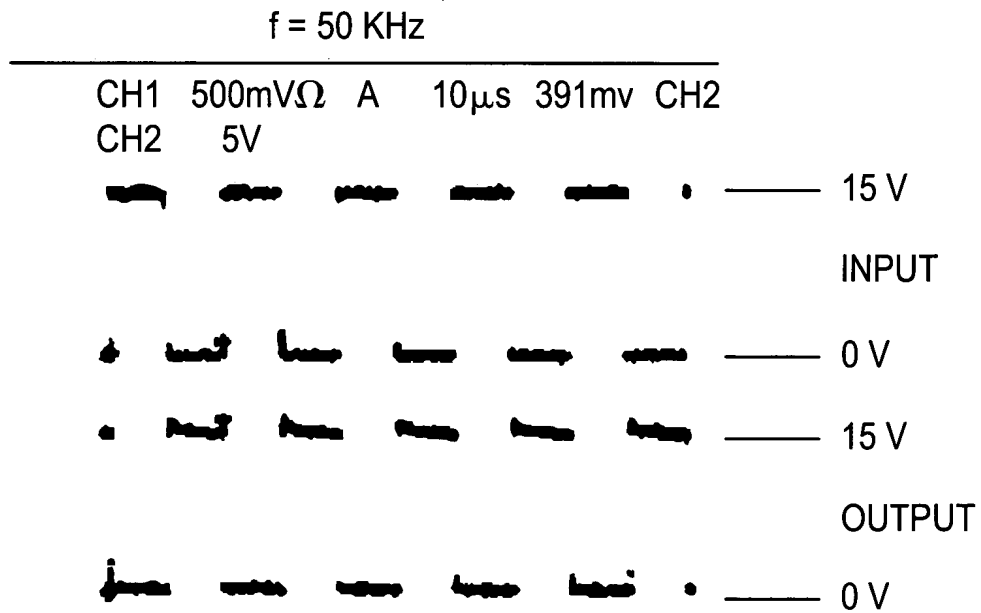




FIG. 35C

 $f = 500 \text{ KHz}$

CH1	500mV	Ω	A	1 μ s	391mv	CH2
CH2	5V					

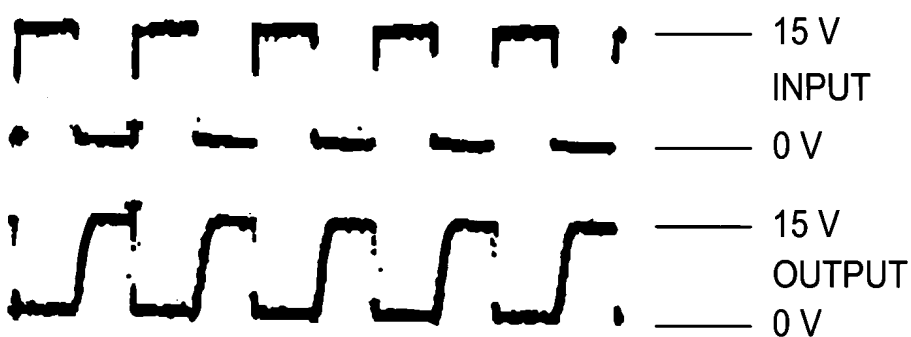


FIG. 35D

 $f = 1 \text{ MHz}$

CH1	500mV	Ω	A	500 ns	391mn	CH2
CH2	5V					

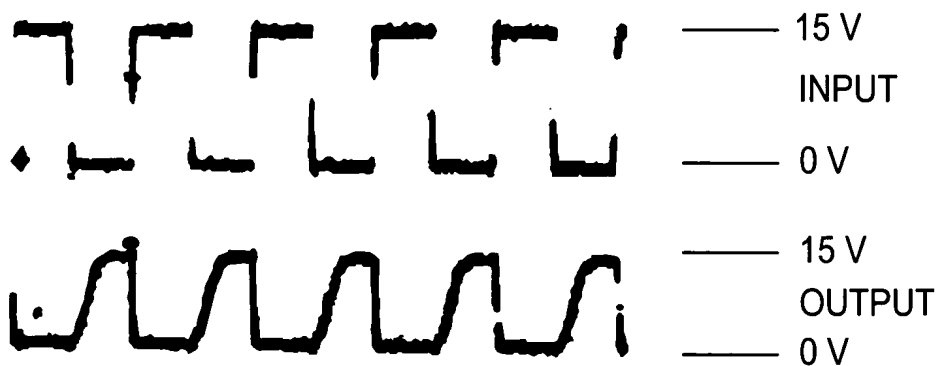


FIG. 36A

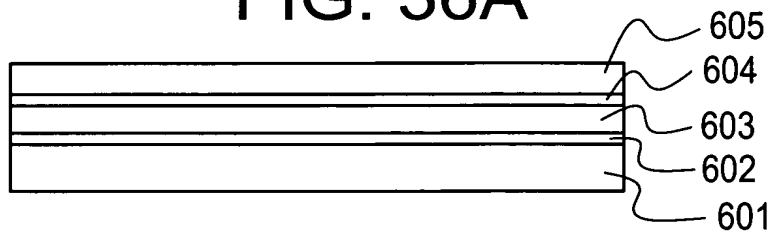


FIG. 36B

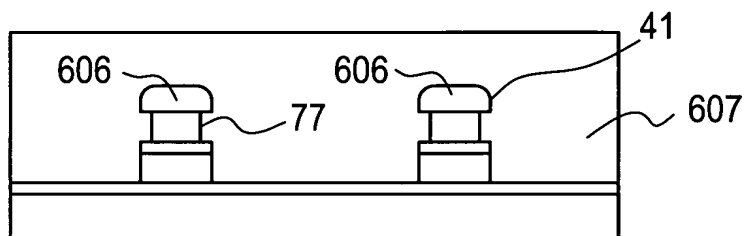


FIG. 36C

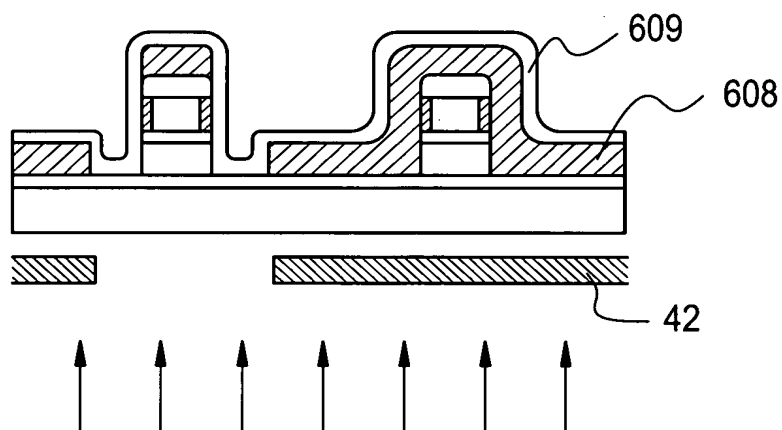


FIG. 36D

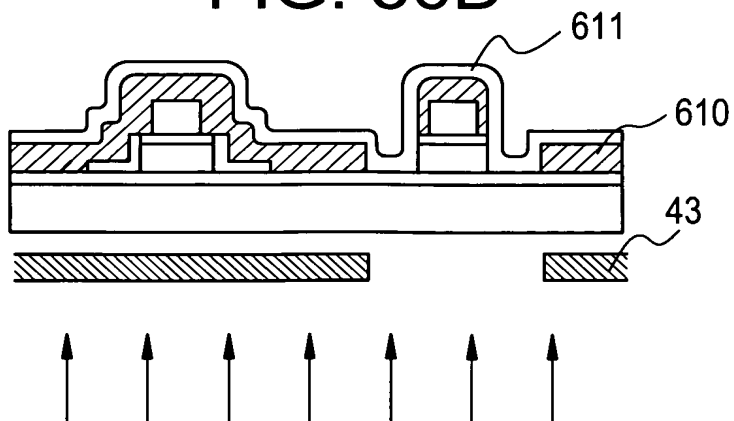


FIG. 36E

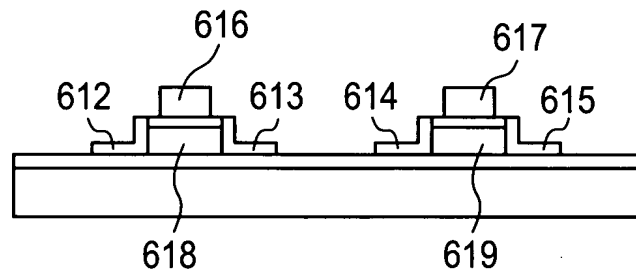


FIG. 36F

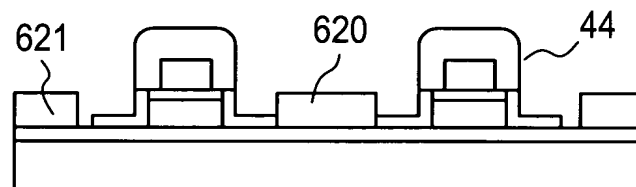


FIG. 36G

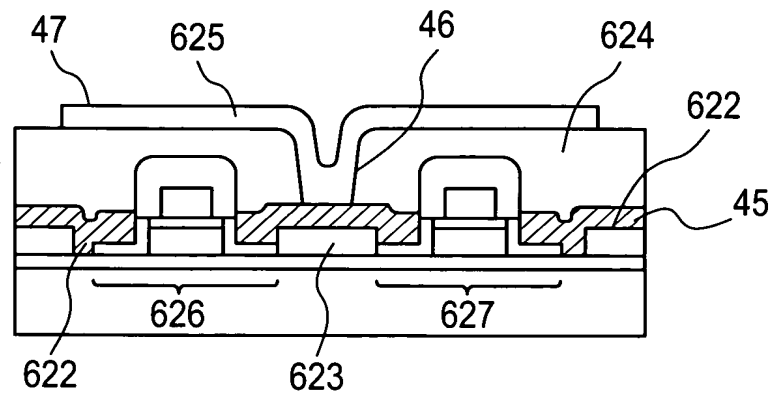


FIG. 37

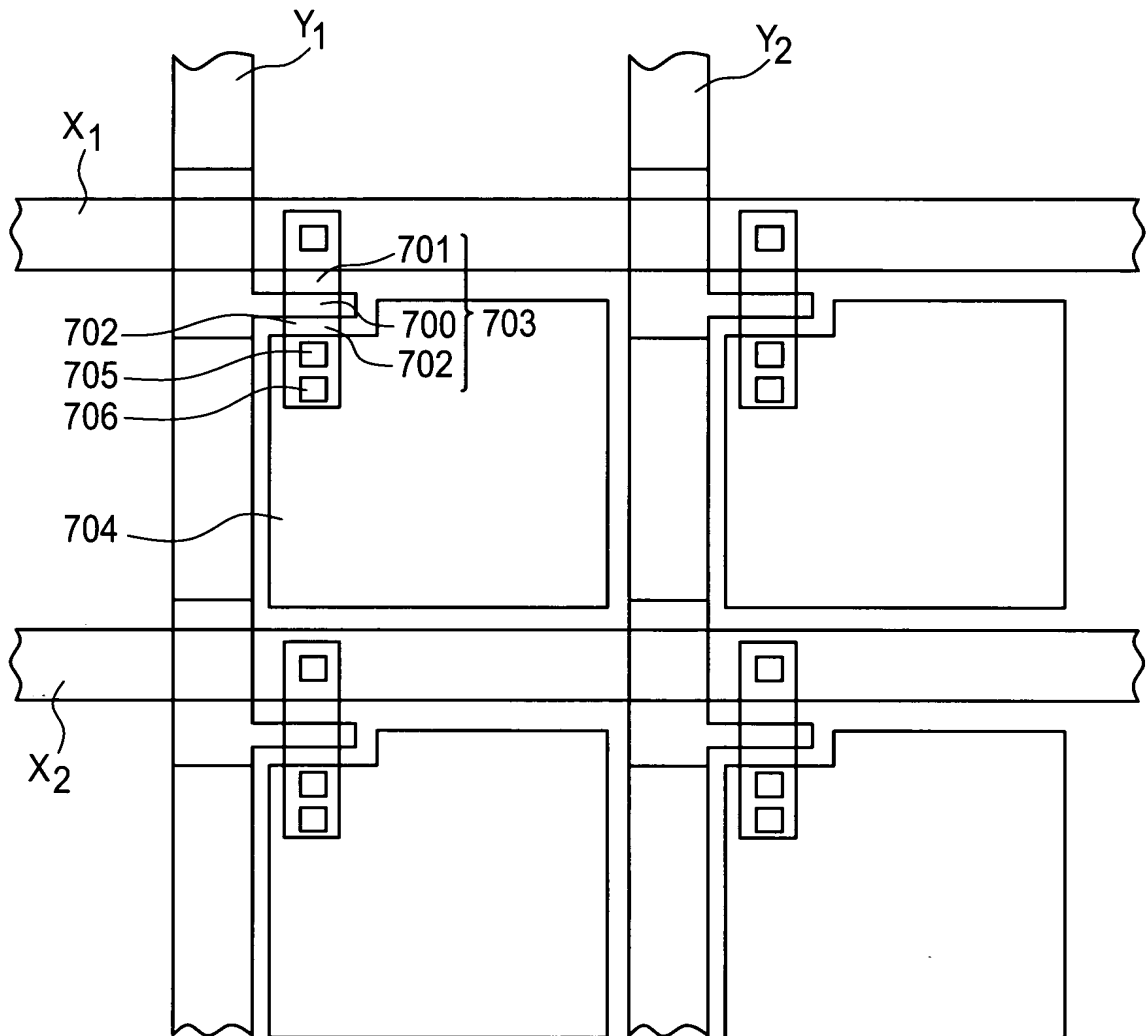


FIG. 38

